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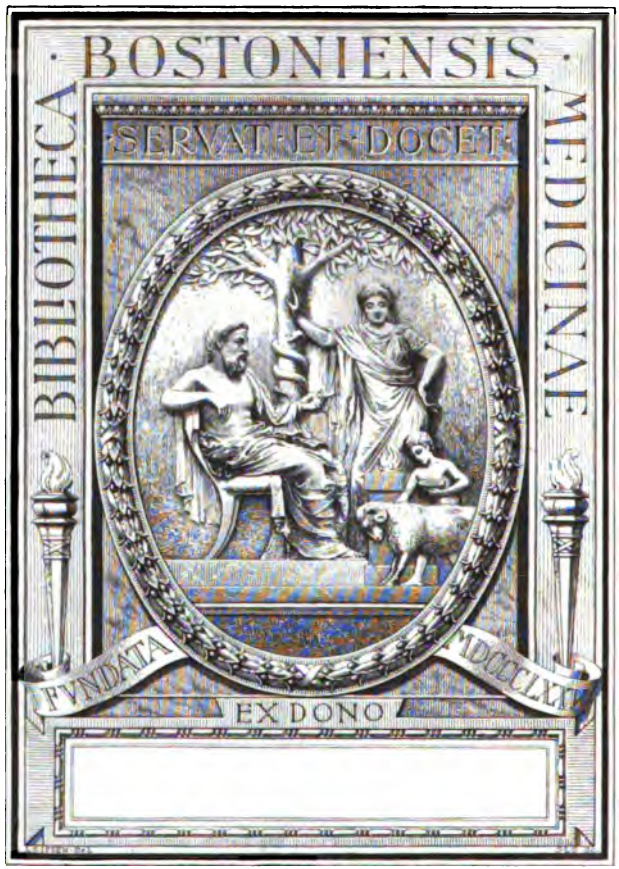
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TRANSACTIONS

OF THE

LUZERNE COUNTY MEDICAL SOCIETY

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FOR THE

YEAR ENDING DECEMBER 31,

1902.

VOLUME X.

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OF THE

Luzerne County Medical Society,

FOR THE

Year Ending December 31, 1902.

VOLUME X.

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ADDRESS OF THE RETIRING PRESIDENT.

DR. ALEX G. FELL.

READ AT THE ANNUAL MEETING,
JANUARY 15, 1902.

In taking such a subject on an occasion of this kind, I at first hesitated, but believing that often much good can be accomplished by trying to see ourselves as others may see us, I will endeavor to bring before the Society some criticisms and wants, and present some outlines of our future.

Our society has grown greatly in the past few years both numerically and in general worth, but it does not appear that we are doing all we can, or that we have any set mark to attain. Our influence can be made greater with the public, and by careful, calm and considerate action can be made the ruling medical body, not only of the people but of the entire profession in the community.

There are not many of the original members living, and if any could return, they would no doubt be surprised at the growth of the society, and be pleased to observe the plant they started, also in a sense be satisfied with the work done, but we must not be too laudatory of ourselves, nor too self-opinionated, as there is plenty of room to grow and abundance of work for all, if they will only do it, but there has been a lack of co-operation among the members, without which we will never attain the highest point of perfection and advancement to all, which should be our guiding star.

It has been the history of the Society that the Executive Committee has been hampered in the work by the carelessness and even the lack of common courtesy which one man may expect of another. Members of this Society have received requests by mail to prepare papers for the meeting, and have at all times been asked to reply, but a number have neglected this and some have delayed their answer so long as to greatly inconvenience the Committee.

There are only eighty-eight members of the Society, and we have, as a rule, but eighteen or nineteen meetings in a year, so

if each member should prepare a paper, they would be called upon but once in four years, which is not asking much, but common decency and courtesy to your Committee should grant a reply; and when once in the affirmative, to see that it is fulfilled, as your Secretary and Committee are not gifted with abundance of time that they can run about to this and that one trying to have the vacancy filled.

The past year has been more free than the preceding ones from this fault, but nevertheless, to glance over the schedule and note the non-fulfillments, strikes one with surprise.

Allow it to be called to your attention that it is not fair to them, who substitute, and your Committee sometimes feels as if at times it is nearly an insult, to ask a member to furnish a paper on short notice. The members do not know that the essayists in fulfilling the engagement of another and the writer has not the time nor the inclination on such notice to prepare such a paper as he would had he the requisite opportunity, and allow me as a digression to state that there are a number of members who have never said "Nay" when requested to fill in the breach, and they are the men that the Committee asks last, after they have not succeeded in persuading others to take the place. Also, as our meetings will average an attendance of 28.5 members, it is not justice to them, as their time is worth something, as are their efforts, to be thus disappointed by the neglect of a fellow member. Now, if we are to have successful meetings, a hearty co-operation with your Secretary is manifestly necessary. The work of the Secretary and Treasurer takes considerable time and the Society has been most fortunate in their selection; as at all times the work has been done with great care.

Financially, the balance on hand one year ago was $525.42; this year there is a balance of $570.61, showing that our income has exceeded our outlay by $45.19, so that our anticipated income exceeds our expenditures, and your Treasurer has deposited for safe keeping, at interest, the sum of $500.00, which should, with its accruing interest, be maintained as a sinking fund, and only touched should extreme necessity demand, and if possible be added to when a balance remains at

the end of the year. And it is recommended that the Executive Committee be encouraged to bring others, from a distance, to present papers, even if it does entail some expense to the Society, as on these occasions the members are brought together, and more in touch, for example, when Dr. Jay F. Schamberg lectured to us on "Cutaneous Manifestation of Smallpox," there were present forty-eight members, or over half the Society, a number exceeding the usual attendance on our Annual Meeting. Such papers act as a quickening power and bring to the mind of those who are apt to stay away, the existence of the Society, and its importance, and if more work in this field was done the membership of the Society, it is believed, would be increased.

Your Censors of the past years have really had nothing to do, except to pass upon the desirability of applicants to membership, and only once in the writer's recollection, has a member been brought before the Society for any violation of the ethical laws or misconduct, and this had more wind than matter. The lack of complaint shows a happy condition and makes one at times question the advisability of the existence of actual ethical laws, and I doubt much if many have ever read the laws as published, feeling that the old law, "Do unto others as you would that others should do unto you," is sufficient unto them.

At times there will be some misunderstanding as to one's conduct toward another, and an act that is in reality intended as an act of kindness, may be construed as a slight, or unjust interference, but if in working our deductions we would judge as we would be judged, we would, in nearly every instance, arrive at the proper decision; that of no intentional hurt. All men are naturally honest, but it is the circumstance that makes them dishonest, and it is the dishonest man who finally brings his own condemnation.

When we hear things derogatory to the character of any fellow member we should be slow to believe, remembering the little rhyme:

"Believe not each slandering tongue,
As most weak people do,
But believe that story wrong
Which should not be true."

And think it a mistake and endeavor to uphold his character, as by so doing we will elevate the general standing and reputation of the Society. It is unhappily the opinion of a great many of the public that doctors will be guilty of most anything, and we too often permit remarks in regard to our brother to go unchallenged, thereby permitting a lowering of the profession in the eyes of the public.

In every case of criminal abortion that comes to light the first cry seems to be, "Who was the doctor?" Now, we all know, from actual experience, that the doctor, as a rule, never figures in the case until the patient's life is brought in jeopardy, and when his presence is necessary in order to carry her through her ordeal. Our profession does not permit us to stand idly by and see the deepest-dyed criminal die when it is in our power to prevent, so we must be on our constant guard to prevent the debasing of our profession. And allow me to call the attention of the public to the fact that too many husbands and wives consider it perfectly proper to bring on abortion, forgetting that it is honorable for them to have children and that they together are better able to rear, educate, and to enjoy them in their old age, while it is a crime most heinous for an unfortunate, who will be disgraced all her life and must struggle alone to succor her child. If it is a crime in the unfortunate it is more so in the other and in working for the prevention of these cases and protecting the names of our brothers, we protect ourselves by raising the regard in which the public hold the profession.

Your Committee on Illegal Practice has more than it can do. The most that they at present can attend to is to endeavor to keep our own house clean. The prosecution of any sect or schism by the medical profession is interpreted by the public as merely a case of jealousy and fear on the part of the medical man that he will lose some of his practice or that it is purely a monetary motive that has brought the prosecution and they always side with the defendant, asking who has made the medical profession the sponsers of the people, and in this way acts as an advertisement of the new schism or sect. Now allow me to say that the medical profession has existed back as far

as man has any knowledge and it will exist as long as man exists; any new discovery or any advancement along that line must take place along the routine channel and all good will be enrolled under the one banner.

We may always expect some supposedly new schism to appear, but it is generally the old dog with the new coat and leaving him alone, not throwing stones at him or tying tin cans to his tail, he will naturally the sooner seek his old home, where he will be quiet. There should be some one in authority in the State to take up any cases of illegal practice the same as against any other malefactor. In this opinion many will differ, but it is more the duty of the commonwealth than of the medical profession. We will always find arrayed against the medical profession certain ministers, lawyers and educated men, but there will always be a great majority standing at our back, so that on the score of such let us have no fear, nor let us, as an individual profession, spend our money upon it. We should always stand up for our rights, but let us not bring on ourselves ridicule.

The report of the Committee on Library and Publication has been most encouraging and the growth since Dr. Edward R. Mayer first donated a portion of his medical library to the Society to the present has been most successful, until now we have a library of which we can be proud, and which has been spoken of often by men of other professions belonging to the community. Gentlemen, to this Committee we certainly do owe more than a vote of thanks, as I doubt if with any other selections as committee-men we would ever have succeeded. It has cost an enormous amount of work, a perfect knowledge of the subject, and means on their part. It is hoped that in the work they will have the hearty co-operation and assistance of every member of the Society. While we are building our library let it be urged that we endeavor to procure the necessary instruments, as microscopes, etc., in order to be better able to illustrate any subject matter that might be before the Society. Finally, it should be our desire and ambition to have things so arranged as to have everything up to the modern scientific status of the profession, making a veritable college

and means of instruction to ourselves; by so doing we would bring the Society to such a position that no medical men in the community could afford to be without the Society, and not one would dare to say, "I don't belong!" as it would be a disgrace and the community would ask "Why?" As it is to-day none can afford to absent himself from the Society and the best paying investment that any young man entering the community can make is to connect himself with the Society as soon as opportunity might permit.

There is no medical library in Northeastern Pennsylvania that will equal it and the opportunities offered is not appreciated or enjoyed to the extent that it might.

Now, gentlemen of the Society, enough of you do not attend the meetings; we will average about 33 per cent., which is not enough. We had 19 regular meetings last year. No member was present at all. 2 at 17; 1 at 16; 2 at 15; 4 at 14; 6 at 13; 3 at 12; 4 at 11; 3 at 10; 6 at 9; 4 at 8; 2 at 7; 7 at 6; 3 at 5; 3 at 4; 3 at 6; 2 at 6; 13 at 11. During the year 75 different members have attended one or more meetings. From the Hazleton District but two members have attended during the year, one twice and one once. This no doubt is due to the inconvenience of coming, but let us hope that when the proposed trolley line is finished that we may have a closer fellowship and a greater attendance from that locality. Some members absent themselves because everything does not suit; because some have more prominence than others; and seemingly fill the Committees and offices, but their grievances are more imaginary than real, for as a rule the offices come to those who work and are present. Allow me to ask them all to come and join hands and work together and these faults, if they exist, will disappear and honor will come to those to whom honor is due. Come, speak your piece and help correct any wrongs that may exist. We want every honorable medical man in this county to be a member of this Society, thus raising its standard, its influence and its actual worth.

During the last year three of the members have been laid to rest: Dr. I. E. Ross, Dr. Farrell and Dr. W. W. Young.

Dr. Ross had been sometime ailing and his death was not entirely unexpected, his age and condition foretold it.

Dr. Farrell had travelled to a distant State in search of that greatest of all blessings, health, but when far from home, not surrounded by family or relations, death came in and called him.

Dr. Young but a little over two weeks ago was in the best of health and was then taken sick. His death came as a shock to all friends and relations. His prospects were bright and the outlook for a long and happy life most flattering. He leaves an aged and infirm grandmother, a weak and helpless mother, a sorrowing and noble wife, a tender and infant child. Now let us in our hour of enjoyment pause a moment and consider our loss. They were all active members of the Society. They were true men of their profession, all having the respect of the community in which they lived, and the more we knew them the more we loved and respected them, but they have gone to rest and let us hope that this does not end all, but that it only means a separation; that they are waiting beyond the river to have us join them. They cannot return to us, but we can go to them, feeling that to die is but to live and that death's sting is wiped away.

"There is no death, that thing that we call death,
Is but another, a sadder name for life,
Which is itself an insufficient name,
Faint recognition of the unknown life,
That power whose shadow is the Universe."

R. H. STODDARD—"Hymn of the Sea.

Gentlemen, in closing allow me to thank you for your kind assistance and consideration during my term of office.

GASTROSTOMY.

BY DR. C. H. MINER, WILKES-BARRE, PA.

READ FEBRUARY 5, 1902.

Egebert, in 1837, first proposed Gastrostomy. Watson made the first proposition in English to the same effect. In 1846 Sedillot stated, and again in 1847 reiterated his belief in its advisability. On the 13th of November, 1849, he did the first Gastrostomy for cancer of the œsophagus. Up to 1875, 28 cases had been operated on, with 28 deaths. On March 3, 1875, in the 29th case, Sydney Jones had the first operative success. It is no wonder, therefore, that so late as 1885 Lagrange condemned the operation as useless and dangerous, for up to 1884, 163 cases had been operated on with 133 deaths, a mortality of 81.66 per cent. That the introduction of antisepsis, as well as greater skill in the performance of the operation, and the avoidance of now recognized dangers, should diminish the mortality is shown by Zezas. Of the first 31 operations, one recovered, a mortality of 96.78 per cent. In the remaining 132 operations there were 32 recoveries, a mortality of 78 per cent.

Gross, writing in 1884, however, gives a much better prognosis. Of 207 Gastrostomies the general mortality was only 29.47 per cent.

Powers collected 99 cases subsequent to Gross's table, of which 26 died, a mortality of only 26.26 per cent. In malignant cases the mortality was 27.71 per cent., and in non-malignant 18.87 per cent. Dr. Keen estimates the present mortality of malignant cases at about 25 per cent., or even less, and of non-malignant, probably not over 10 per cent.

The first operation was done after the method of Egebert. The stomach was fixed to the abdominal wall, followed a few days later by a direct opening into the stomach. This opening was quite large and was attended invariably by leakage of the gastric contents, which produced an excoriation of the skin around the opening and rendered the patient so miserable that

it was doubtful whether the operation was of any benefit. Various mechanical devices, more or less elaborate, were adopted to prevent leakage; all of them failed of their object. In two directions improvement has been offered. First, in doing an early operation, and second, by various operative instead of mechanical devices, leakage is prevented.

The first improvement was suggested by Von Hacker, in 1886. His operation consisted in drawing the stomach through a slit which has been made by a blunt dissection in the left rectus muscle, whose fibers are supposed to act as a sphincter. This method was a vast improvement, but unfortunately the sphincteric action is generally inefficient. The best methods, however, are those of Ssabanejew-Franck, Witzel, Kader and Marmedel.

In 1890 Ssabanejew and in 1893 Franck, both hit upon an identical new method. This (without the use of a tube) is the method which I used and will be described in full later.

In 1891 Witzel devised a new method by which a long, oblique canal is formed by folding the stomach wall over a tube, but usually it is necessary to allow the tube to remain permanently.

Kader also introduced a tube, but vertically instead of in an oblique direction. By means of sutures two pleats of the stomach wall are sutured to each other on each side of the tube, thus depressing into the cavity of the stomach a funnel-shaped projection of its wall. In 1896 Marmedel proposed another method, somewhat similar, in which the tube is sutured between the mucous and muscular coats.

Frazier, in "a Critical Summary of the Literature on the Surgery of the Stomach," in the *American Journal of Medical Science* for May, 1900, states that the operations which command the greatest confidence are those of Kader and Marmadel and are the ones which can be carried out the most rapidly. But Keen, Robson and William J. Mayo favor the operation of Ssabanejew-Franck and, in my opinion, with good reason. As Keen says, the tube is always becoming displaced by the dressing which is rotated by the movements of the patient in

bed and after the Franck operation a permanent tube is never required and there is never any trouble from leakage.

J. P., age 46, male, miner, born in Austria; admitted to City Hospital October 23, 1901.

Family history: Father is living and well. Mother died at about 35 years of age of unknown cause; one brother and two sisters living and well. Has had seven children, four died in infancy; three are living and well.

Previous History: Unobtainable as far as previous condition of his health was concerned. Uses tobacco and alcohol moderately. Denies all veneral trouble.

History of Present Disease: His illness began eleven weeks before admission to the Hospital with pain in back and abdomen, difficulty in swallowing, vomiting, anorexia and loss of flesh and strength. On admission patient complained of pain in abdomen and an inability to retain any food, liquid or solid. He was constipated and markedly emaciated. It was impossible to pass a stomach tube or œsophageal bougie on account of an obstruction at or near the cardiac end of the stomach.

No growth could be felt in the abdominal cavity. He was given a glass of water which he regurgitated with mucous. He took three ounces of broth in small quantities but it was all regurgitated in a few minutes. He was later given nutritive enemata or peptonized milk, four ounces every four hours after the looser bowel was flushed with warm, normal salt solution. The examination of the urine showed that it was normal. The pulse the day after admission was 96, respiration 24. The heart sounds were sharp and clear. The liver dullness extended about one inch below the margin of the ribs. Five days after admission he was able to swallow and retain milk and lime water. He continued to take liquids for about a week and was given egg and toast, which he did not retain. On November 4th he began spitting blood and on the 8th he vomited a large quantity of blood. He continued to take liquids by the mouth and apparently retained a part until November 24th, when the nutritive enemata were again given. How much of the liquid food that was taken by

the mouth finally reached the stomach is impossible to state, as we found later that there was a cavity in the mediastinum into which liquid would pass through a false passage from the œsophagus, made by a bougie.

I saw the patient first in December, and early in the month the bowel refused to retain the nutritine enemata and it was plain that he was starving to death.

An operation was suggested, gladly accepted, and performed on December 7th with the very kind assistance of Drs. Guthrie and Weaver. On looking up the literature of the subject, I found that Dr. Keene recommended the Ssabanejew-Franck operation, if the stomach was large enough so that at least an inch and a half of that organ could be drawn through the wound, but if that was impossible, due to atrophy, he gave the method of Witzel the preference.

I decided to follow Dr. Keene's advice but was prepared to do the Witzel operation if necessary. A four inch incision was made along the left border of the ribs. The stomach was drawn out through the wound into a cone about an inch and a half long, and a silk retention suture passed through the serous and muscular coats of the apex of the cone. The base of cone as it passed through the abdominal incision was closely attached to the parietal peritoneum with continuous silk sutures. A second incision parallel to the first was then made one inch above the free border of the ribs. The bridge of skin between the two incisions was dissected up from the underlying muscle and under this was drawn by its thread the cone of the stomach till its apex projected through the upper incision where it was fixed by four interrupted silk sutures. The original abdominal incision was then closed with interrupted silk-worm gut sutures. An opening was made into the stomach at the apex of the cone, a tube inserted, the stomach thoroughly washed out with boric acid solution and sterilized water, as it contained some mucous and coffee-ground material. Before leaving the table six ounces of albumen water was inserted through the tube which was left in place. In this operation the tube can, in a few days, be removed and no leakage occurs on account of the obliquity of the canal and of the presence of the

strip of skin, and a tube is only introduced when food is to be given.

The operation was not at all difficult and was a complete success. The patient was fed every three hours for a few days, then every four hours and later every six hours. The capacity of the stomach after the operation was 33 ounces. After a few days the tube was left out between the feedings and there was no leakage. The hunger and taste for food were satisfied by allowing him to chew and spit out food three times a day. He was perfectly happy and contented till January 11th (when he had gained four pounds after the operation). On the 11th he had a chill followed by a rise in temperature and died on the 18th of January, six weeks after the operation.

Autopsy by Dr. Wadhams, January 18th, 1902. Left lung adherent at base posteriorly. Right lung very adherent and at base closely attached to diaphragm, pericardium and œsophagus. Heart small, valves normal. Liver large, extends 3½ inches below margin of ribs. No deposits in spleen, liver or pancreas. No enlarged glands. No adhesions of intestines. Appendix normal. Just below the root of the lung the œsophagus was completely closed by a new growth. At this point and below is a cavity with neurotic walls. This cavity extends into the left lung and bronchus and from it a long, narrow extension runs upwards between the aorta and œsophagus. This had connection with the pharynx, as quite an amount of food and fluid could be swallowed, while the œsophagus could not possibly hold more than a few ounces. On section the mass closing the œsophagus is found to be carcinomatous. The arrangement of the cells in some parts is alveolar and in other places more epithelioma and is the usual squamous epithelial growth, without metastasis, usually found in the œsophagus.

You might ask was the operation worth while as the patient only lived six weeks. In reply I would quote Dr. Keene, who closes his article with the following paragraph:

"That Gastrostomy for malignant disease does not save life is self-evident, but in preventing the patient from slowly starving to death and in satisfying both hunger and thirst, it

is a most humane operation. It has relatively little danger and therefore can be commended even in desperate cases. I cannot adduce better proof of this than one patient of my own who died three days after the operation from inanition. On the morning of the day of his death, as it was evident that he could not live long, I told him that death would speedily release him from his sufferings, and I asked him whether, having passed through the annoyances of the ether and the pain of the operation, if he had it to do over again, he would choose the operation, even though it did not prolong his life. 'Most assuredly,' was his answer, 'the relief from the hunger and thirst have been such that I would cheerfully go through the operation.' "

William J. Mayo, in a paper on "Surgical Treatment of Diseases of the Stomach," says: "From a surgical point of view the stomach is a favorable organ for surgical work, far more so than the intestines. Its blood supply is from several different sources so that even very large incisions may be expected to heal. Its mucous coat is very thick and can be easily separated from the muscular and peritoneal coats. Hence sutures can be easily introduced, and the gastric juices, while they are not germicidal, are hostile to bacteria. It has been shown by Cushing that the contents of the upper part of the alimentary canal are far less septic than the contents of the lower part."

As regards the time at which operation should be performed in malignant stenosis of the cardiac end of the stomach, it is all-important that this should be done once the diagnosis is made—that is without regard to the degree of dysphagia. The advantages of an early operation are these: it allows of the patient's receiving sufficient nourishment, and by putting the œsophagus at rest it does away with mechanical irritation, retards the progress of the growth, and thereby prolongs life. To sum up, it might be said the operation of Gastrostomy, as performed to-day, is almost ideal.

ADENOIDS.

BY DR. G. W. CARR, WILKES-BARRÉ, PA.

READ FEBRUARY 5, 1902.

Adenoids, pharyngeal tonsil, Luschka tonsil, adenoid regatations, discrete tonsils are all synonymous terms for a hypertro phied condition of the glandular tissue of the naso pharynx, occurring principally in childhood and adolescence and rarely seen after the age of thirty. This glandular tissue lies in the posterior wall of the naso pharynx, and is composed of lymphatic tissue, held together by fine connective tissue elements. It is a conglomerate gland covered with a thin mucous membrane surface and is highly vascular. The structure is histologic and should atrophy from the twelfth to the twentieth year.

Heredity is an important factor and it is a frequent occurence for several children in the same family to have these growths. Climate is an exciting factor. Damp climates in which there are sudden changes of temperature seem to favor their development. Since the relation beteween adenoids and the various forms of rhinitis is marked, it follows that children living in the country away from irritating dust-ladened air, are less frequently found as subjects. It is even claimed by some authors that a uric acid diathesis is a predisposing factor in their development. Children with a syphiltic or tubercular history, in which there is glandular enlargement, are generally found to have these conditions exaggerated. Enlargement of the faucial tonsil is frequently associated with adenoids; also a hypertrophied condition of the turbinates.

Pathologically we have practically two varieties, one the hard variety, in which the surface is more or less lobulated, and the soft variety, which spreads all over the naso pharynx and is easily broken by the finger. The symptoms of a marked case of adenoids of long standing are not to be mistaken. The open mouth, staring countenance, bulging eyes, restless air, and

noisy breathing are typical. A peculiar flat appearance of the face, known as frog face, is frequently seen. In cases less severe the symptoms are of course not so marked. Among other symptoms, deafness due to pressure on the eustachian tube is generally present. The child is absent minded, the voice thick, and muffled, and as there is generally an impairment of health, the patient is peevish and irritable. In many cases it has been noticed that the breathing during the day has been more or less free, but at night the child breaths through the mouth and generally snores. A history of recurring colds in the head associated with a profuse tenacious discharge, either of a gray or bloody color, is noted. Ear ache, many times associated with profuse discharge from the ears, occurs. The tympanum may be involved and possibly bony necrosis. In infants suffering with adenoids it is noted that the nipple will frequently be removed from the mouth in order that the child may get air. Since the post nasal obstruction interferes with the free passage of air through the nose and allows the secretions to collect, an inflammation of the anterior nares is frequently seen, this same obstruction prevents the air being warmed and moistened and consequently many of the cases suffer from croup, bronchial affections and asthma.

In many cases the children are anaemic, due to interference with the proper oxidization, and dimunition in the number of red blood corpuscles is seen by blood examination. There are so many reflex conditions due to the presence of these growths that it is not unusual for the physician to have some obscure trouble explained by this discovery.

It is very seldom that you can make an examination of the naso pharynx in children by the use of the mirror. By far the best way to make a diagnosis is by the introduction of the index finger into the vault, at the same time taking care that the mouth be held open to prevent the operator's finger from being bitten. By this method the growths can readily be felt. In addition to the digital examination the irregular teeth and high arching palate are diagnostic. The treatment of these cases has been as much discussed probably as any condition we

know. Washes, sprays, caustic and galvano cautery have all been used and each has its advocates, but no doubt the best method, the quickest and most thorough, is their removal by curettement. It is best to use an antiseptic wash for a day or two prior to the operation, both in the office and at the patient's home, thoroughly cleansing the nasal and post nasal cavities.

As to the anesthetic, chloroform I think is the best, as the effect is rapid and the after effect is not so unpleasant as that from ether. In case the faucial tonsils are enlarged, it is best to remove them before the adenoids. The patient being anesthetised it is advisable to wash out the post nasal cavity with a warm alkaline solution consisting of

℞ Sodii bicarb.
Sodii bibor. aa gr. x.
Sodi chlor gr. $\frac{iii}{iij}$
Aquae dest. ℥v. $\frac{iii}{iij}$

Having sterilized the instruments and your hands, especially the index finger, the patient should be put in the Trendelenburg position and the mouth gag inserted. Gottstein's curette is now placed in the post nasal space and a few sweeping movements downward and backward against the posterior pharyngeal wall will remove the bulk of the growths and by then introducing the index finger, any which may have escaped the curette can readily be felt and removed by the finger nail. Care must be taken not to injure the eustachean tube and for that reason it is best to use the finger nail entirely in that region.

There is usually quite a little hemorrhage following this operation, which however lasts but a short time and generally requires no treatment. The after treatment consists in washing the naso pharynx with the warm alkaline solution already suggested and keeping the patient quiet for a day or two.

DISCUSSION.

DR. ERNEST U. BUCKMAN.—There is very little occasion for discussion of the subject, except as to the methods of operating, There is no question but cases of adenoids of the naso-pharynx exist. We all meet them more or less frequently. Even in adults we not infrequently see the results of the condition in the deformed mouth and face of mouth breathers. I recall one patient, a young lady, in which the mouth deformity was very marked.

There is no question but the proper treatment is removal of the growths by some means. I have operated a number of times, and have always used the Gottstein curette.

I have used cocaine anaesthesia in several instances, even in children as young as ten years. The operation is quickly done and the discomfort is much less than that produced by general anaesthesia. If the child has had the benefit of a proper home discipline, there is little difficulty in getting it to submit to the introduction of the curette.

I have never used the Trendelenburg position. I prefer to have the patient on the lap of an assistant when cocaine is used and lying on the edge of the bed, with the face well over, under general anaesthesia. I prefer ether as a general anaesthetic.

INTESTINAL PARASITES.

BY DR. W. CLIVE SMITH, WILKES-BARRE, PA.

READ FEBRUARY 19, 1902.

Mr. President and Members:

In offering you this short paper on Intestinal Parasites, I am not going to inform you of the knowledge of a new worm discovered, nor am I going to try and overrate the importance of such animals causing symptoms and diseases, especially in children, but merely recall to your mind that such animals and diseases resulting from them, do exist, and while many times, seemingly unimportant to the physician, the overlooking of

them and their non discovery is very important to the health of the child.

The development of our knowledge in this branch of medicine, as shown in the literature of the subject of the last one hundred and fifty years, is closely allied to the development of our knowledge of bacteria in the last twenty-five or thirty years. The intestinal worms, or some of them, have been known from very early times. Hippocrates mentions the tape worm and Aristotle describes, in addition, the round and seat worm. During the classical and middle ages, the doctrine of spontaneous generation held general sway and was thought to afford a satisfactory explanation of the occurrence of Entozoa. In even those years there existed a desire to account for the given phenomena, and in the absence of any other cause, the intestinal parasites, even some of the most harmless of them, were considered the cause of the most varied diseases, and some of the most dangerous epidemics were regarded as due to them. When the parasite was not discovered, its existence was supposed.

Then in the course of events, as it always happens, there came a reaction. The progress of medical science, aided by improved means of research, and directed into new channels, broke down this idea, and the parasite was actually acknowledged, and it was believed that it was dangerous and could even endanger the life of its hosts, but its connection with any form of disease was denied. Some investigators even went further and argued that not only were they unattended with any danger to the individual, but exerted a beneficial effect, in that they assisted digestion by increasing the secretion of the mucus and stimulating the perisaltic action of the intestines. Others, while they did not deny the pathological condition of the intestines, when associated with parasites, asserted that there was no connection between them.

Bremser, one of the most celebrated men of his time, designated under the name of Diathesis Verminosa, a condition of the alimentary canal, accompanied by disorders of nutrition and digestion, in consequence of which, material accumulated in the bowel, favorable to the production of worms. It was

even held by Rillet and Barthez, that this worm diathesis could exist without the presence of worms. To many, when they did not know the real cause or nature of a disease, it served as a cloak for ignorance, to speak of worm irritation, worm fever, and worm diseases in general. This was due not alone to the common tendency to magnify the unknown, but also to the uncertanties of diagnosis, the absence of pathological anatomy, and the frequency with which worms were apt to pass away in the course of serious diseases, the subsequent recovery from which being imputed to their escape. The subject of intestinal parasites has a further importance, because the first proof of the connection of a typical infectious disease, Trichinosis, with a living germ, the trichina spiralis, which in its adult life is an intestinal parasite, was acknowledged at a time when the casual connection of bacteria with disease was denied by very many, although the proof was just as positive as that of the connection between trichinosis and the trichina.

It is only in the present generation, after exact scientific work, accompanied by experiments on animals and man, have sound views on this subject prevailed, and only since the discoveries of Kuchenmeister and his followers, has a satisfactory knowledge of the life history of the human intestinal worms, and the part which they play in the production of disease, enabled the physician to appreciate their true importance in medicine; to ascertain their presence with certainty and in most instances point out how they may be avoided.

Animal parasites belong to three divisions—Protozoa, Arthropoda and Vermes.

The protozoa are the most lowly organized members of the animal kingdom.

The arthropoda parasite includes animals from the subdivision arachnida and insecta which infect usually the skin.

Animals of the devision Vermes, or worms, are most frequent of all animal parasites.

In this class we find the following:

Ascaris Lumbricoides.

Oxyuris Vermicularis.

Tricocephalus Dispar.

Ascaris Mystax.
Taeniae.
Trichina spiralis.
Anchylostoma Duodenale.

Of this number, we find commonly in children:

Ascaries Lumbricoides (Round worm.)
Oxyuris Vermicularis (Seat Worm.)

And it is of these worms alone that the paper will treat. With these three worms every young physician soon becomes familiar. The subject is not an entirely new one to him when he begins the practice of medicine, because he has heard of the subject possibly from his early childhood, and remembers with disgust the infusions and concoctions that he unwillingly had to take as a child, for the possible existence of such a trouble in himself, and he possibly hesitates to inflict upon his small patients the same punishment.

As a rule, the physician himself is not called upon to prescribe for such troubles. The laity, constituting the female portion of the family, generally consider themselves able to cope with such difficulties, and having given the numerous children of the family worm medicine by the wholesale, and possibly having had partial results in a child or two, consider that the children are not afflicted with worms, or if they have been, they have been dissolved by the medicine and are perfectly satisfied in their own mind that that part of their trouble has been cured and no longer exists, and the child being no better it is carried from one physician to another for treatment, expecting a much graver diagnosis. The physician not wishing to take the trouble that a thorough treatment involves, usually takes the word of the laity and treats the symptoms, usually obscure as belonging to something else.

While the presence of intestinal parasites in children, their diagnosis and treatment, and their power to endanger life to any great extent from varied experiences, and the scant attention given to the subject in text books in our medical courses (although every authority cites numerous cases where the results from their presence have been fated), is of such little value

as compared with our many other important diseases, yet due to the difference of opinion which has existed for so many years, even from the earliest times, the symptoms varying from slight to serious manifestations, all uncertain as applying to worms, and being symptoms common with other diseases, the knowledge the laity has of the disease, and the unsatisfactory results from an incomplete treatment has, I believe, a tendency which, if they are present, to underestimate the seriousness of their presence as far as the strain on the child's system is concerned.

I have in mind the case of a child four or five years of age, who showed the most varied nervous symptoms. From a healthy boy of a happy disposition, he became thin, peevish and unable to sleep; the nervous symptoms embracing a range from slight twitching to several hard convulsions. This child was seen by several physicians, including one of the best authorities on children in the State; he was treated for various diseases, including malaria and worms, special attention given to the nose and throat and teeth; tonic medications given in every form; his diet most carefully regulated. Circumcision was performed. The child was taken from city to country, from country to mountain, and from mountain to sea shore, on the advice of different authorities, but was at last brought home unimproved in any way. The mother's health was broken from worry and care; the father's exchequer reduced from attention given. The diagnosis of worms—seat worms—was again made, and thorough treatment given for three weeks, the treatment being twice daily. In a month the child's nervous condition was perfect, and soon after began to take on flesh and became perfectly well.

The Ascaris Lumbricoides, inhabiting the small intestine, and resembling the common earth worm, is the most common of all the animal parasites. It rarely occurs in infancy, usually between the ages of five and ten, seldom in old age. This species of worm is not solitary, sometimes the number is very great, and in autopsical examinations they are accasionally coiled together so as to form balls or masses of considerable size.

Cruveilheir cites a case in which more than a thousand were

found after death. And there is a specimen in the Wistar-Horner Museum of the University of Pennsylvania in which not only the common duct, but also the main branches throughout all the liver are enormously distended and packed with numerous round worms.

There can be no doubt, however, that the round worm wanders spontaneously toward the external apertures under certain conditions not well known, sometimes passing through the anus, mouth, nose—often with severe purging, vomiting or sneezing. After death also this migration is not uncommon, and is probably induced by a deficiency of food, or the presence of some conditions unsuitable for the welfare of the worm; but whatever induces it, it results in placing the worm in remote and singular localities during life and after death. It creeps sometimes into the gall duct, gall bladder, or hepatic duct, and there may give rise to serious structural changes. It passes sometimes through an ulcer, or other abnormal opening in the intestinal wall, and is found after death in the peritoneal cavity, accompanied or not, with signs of peritonitis, according as it may have migrated during life or after death. This migratory instinct has occasionally led the round worm along fistulous channels to still more remote cavities or organs, for example, to the pleural sac, the spleen, the bladder, muscles of the body, spinal cord, lung, trachea and Eustachian tube.

The symptoms of round worms especially are of the most indefinite kind, and are nearly all symptoms belonging to any of the diseases. Often there are none till the worm is discovered. In the last year I have had two children pass worms by the mouth without a sign of discomfort, while another child had the most alarming symptoms, and after thorough treatment passed only three worms by the rectum. When I saw this child, she had then been having convulsions off and on for two days. History of previous good health. As there was a case of most malignant scarlet fever in the family, and as she had already been treated for worms, the disease before mentioned, in an obscure form, was suspected, although there were no symptoms except a red throat. The day I saw her, the child had a history from the family of having had twenty-three convul-

sions from two o'clock in the afternoon till ten that evening. I have no doubt of the truth of the statement, for I saw her have four in one-half hour, each spasm lasting from three to five minutes, and of the most severe character. Bromides, chloral and chloroform were at once administered, and calomel and santonin given, and quassia injected as rapidly as possible, with the result that while the convulsions were lessened they did not entirely cease until eight o'clock the next morning, when she passed one worm, and upon repeating the treatment the next day she passed two more; she then made a rapid recovery. In another case, a child who had already passed worms was brought to me for colicky abdominal pains, and disordered digestion—restless nights. This child under treatment passed over twenty worms. A great variety of symptoms, especially nervous ones, may be met with lumbricoides more than any other intestinal worm. The symptoms may be of the most puzzling variety, and may simulate very closely those of serious organic diseases. There may be chills, headache, vertigo, hallucinations, hysterical and epileptiform attacks, transcient paralysis, even aphasia. All these have been observed in connection with lumbricoides, and the fact that the symptoms disappeared completely after the worms were expelled, there seemed to be little doubt that they were the cause of the symptoms.

In the case of the abdominal symptoms, however, intestinal worms are only one of the causes of such nervous symptoms, and certainly not the most frequent, but the possibility that they may depend upon worms should not be overlooked. The only positive evidence of the existence of round worms is a discharge of a worm from the body or the discovery of the ova in the stool. A microscopic examination of the stool is a valuable means of diagnosis, and one that it is to be regretted cannot more frequently be employed. When worms are present, the ova may be found in great numbers. Their continued presence after the discharge of one worm indicates that other worms exist. In the treatment of round worms the indications are to remove the irritation of the alimentary canal, to improve the general nutrition where that has suffered, but above all things to expel the worms; and this can generally be effected without

difficulty. Many of the substances which have obtained a reputation as anthelmintics are employed, but none of the many remedies given are as efficacious as santonin, given in doses according to the age of the child. This may be given with or followed by calomel, and the effects of poisonous doses should be carefully avoided. The prevention of Lumbricoides cannot be so carefully guarded against, as we are not certain how it enters the body, but whether we hold with Leuckart, that an intermediate bearer is necessary, or with Daraine, that it is not, and that we drink the ova in impure water, in all probability the careful cooking of all our foods and drinks would prove a good protection even in those countries and districts in which the pest most abounds. It is not, however, probable that well filtered water could convey the infection.

Oxyuris Vermicularis, commonly known as the threat, pin, seat or maw worm, inhabits the large intestine, especially the rectum, and probably causes in children more trouble than any of the other intestinal worms, and are far the most difficult to be freed from when once found Their size is small; the length varies between two and five lines, they frequently exist in immense numbers and are sometimes voided in large masses surrounded by mucus. In children a self infection may frequently take place. In persons already infected it is easy to see how the ova in the skin near the anus may be conveyed to the mouth or nose by the fingers, after scratching to ally the violent irritation that these small pests produce; and in other modes the eggs may find their way into the stomach from the soiled bed clothes or personal linen. This explains why seat worms are at times so difficult to be disposed of, and the great length of time during which some people suffer and the liability to relapses notwithstanding repeated treatments. The frequency with which these animals are found inhabiting many members of one family or household, the greater is the liability of children, of unclean people, and of people who often eat uncooked fruit and vegetables, as well as the immunity of infants at the breast. The symptoms of Oxyuris involve all the nervous phenomena and symptoms that one might attribute to worms. Ordinarily they produce a chronic irritation of the rectum, with

itching, burning and pain which extends to the genitals. In the evening and night, especially after the child has become warm in bed, the worms seem to be in their worst condition, and give rise to various symptoms. Frequently the symptoms return every night with regularity.

I had under my care a child whose temperature would go up slightly every night, and nervous symptoms of rolling the eyes, twitching of the extremities, would occur after having been in bed an hour or so. The child was treated first for malaria, but there being no improvement, worm treatment by mouth and rectum was given with most satisfactory results.

Aside from the nervous symptoms usually seen, the restless nights and boring of the nose, caused by the infection of the hands of the child from the anus, are the most prominent symptoms of seat worms, when a diagnosis of the trouble cannot be made from the actual observation of the animal.

Although there are really no dangerous conditions produced by the oxyuris, yet the condition is unpleasant and often very hard to treat successfully, and they cause very alarming and confusing symptoms.

In this disease, which is so obstinate and which often returns after apparent cure, it is necessary not only to treat promptly, but also to continue the treatment for some time. Although the treatment by injections which have for their purpose the destruction of the worms in the rectum, and due to which are most of the unpleasant symptoms is most important, yet it must not be forgotten that worms are constantly being added to from the small intestine, so it is well to give the same treatment by mouth as in the case of the round worms, and attack the oxyuris from above and below.

Cleanliness is an absolute necessity as a first step in the treatment of all cases, and to adopt methods to prevent reinfection. In a well pronounced case, where the symptoms have indicated, and the presence of seat worms confirmed the diagnosis, treatment twice or three times weekly with santonin and calomel, suitable to the age of the child, by mouth, followed by active purge, should be given. Daily the physician should then irrigate the colon by the means of a fountain syringe, and

long rubber catheter, first with a quart of luke warm water, to which may be added a small amount of salt or borax, in order to remove the mucus; when this has been discharged, half a pint of bichloride solution, 1-10,000 should be injected high into the bowel through a catheter, and retained as long as possible.

Another most efficient injection is quassia, infusion two ounces to pint. This should be repeated every two or three nights; on other nights a simple saline injection of cool water may be employed by the mother. After each irrigation and after each stool, the parts about the anus should be bathed with a bichloride solution, 1 to 10,000 and a mercurial ointment applied to control the itching and preventing the escape of the worm from the bowels. Both in day and night dressing of the child the clothes should be so fastened that it will be impossible for the child to handle the afflicted parts. The hands of the child should be kept scrupulously clean, washing them with an antiseptic solution; while the nose is sprayed twice or three times daily. Good results have been obtained by different ones from injections of asafetida, lime water and aloes, while garlic by mouth and rectum seems to find much favor in obstinate cases. The above treatment, well carried out, will, I think, overcome the most obstinate ones.

The tape worm is never seen in nursing children where milk forms the exclusive diet. It is often met with from the age of five to fifteen years and is most common from fifteen to forty. Wanruch found in two hundred and six cases of tape worm, twenty-two in children. There are no symptoms which are absolutely diagnostic of the worm. There may be varied disturbance of digestion, irregular appetite, unpleasant sensations in the belly, which in young children may increase to colicky pains and gastralgia; weak children suffer much more from the parasite than do those who are strong and well nurished. There may be various nervous disturbances; children are often fretful, peevish and impatient; often there is a pain around the umbilicus, which radiates toward the epigastric region. Sometimes this pain returns at regular intervals and is generally quieted by eating. The appetite is irregular—sometimes poor—and then may be increased to regular boulimia.

There is nothing pathognomonic about these symptoms. A combination of neurotic blushes, a tendency to colicky pains and an itching around the anus may lead one to suspect the presence of a tape worm, but a certain diagnosis can be made only by evidence of the segments.

Care must be used of remedies, especially in children, from the ease with which gastric disturbances may be set up. All tape worm remedies, especially the most efficacious, have the disadvantage that they are liable to upset the stomach. In general, it will be found more difficult to expel the worm in children than in adults, principally for the reason that the treatment directed against it as in the former cannot be so heroic. One of the difficulties in the way of treating children is that the medicines are so very unpleasant to take. An old remedy against the worm is the bark of the pomegranate. The powdered bark, fresh as possible, should be macreated with an equal amount of water and this reduced by boiling to half the quantity. Very young children should be given half a teaspoonful of this decoction and those over ten years may be given a full teaspoonful, adding syrup of orange peel to prevent vomiting. The list of drugs used for the expulsion of the worm is a long one; probably the most satisfactory is the oleoresin of male fern, which should be given in capsule in fifteen minim doses to a child of ten years, four capsules administered at hourly intervals; the vermifuge should be preceded by several hours fasting and the bowels should be previously opened by a laxative. The following plan as given by Holt for administration has been found satisfactory. A light supper of milk, in the morning a saline laxative on rising—no breakfast; after the saline has acted, the capsules are to be given and following the last one, half an ounce of castor oil or some other active purge; only milk should be given that day. The fragments passed should be carefully examined to see if the head had been expelled. As the worm is very likely to be broken at the neck. If this occurs it will grow out again and in about three months segments will appear in the stool.

In conclusion—this paper not claiming any originality in

idea, simply enters a plea for the general practitioner not to overlook, in his zeal for new diseases, the intestinal parasites and the symptoms they can cause in children and have even from the history of earliest times, and the necessity of remembering to always at least consider their presence in obscure cases of children's diseases.

ENDOMETRITIS.

BY DR. B. J. WETHERBY, WILKES-BARRE, PA.

READ MARCH 5, 1902.

Endometritis, or inflammation of the uterine mucosa, is of importance from its rather frequent occurrence among our gynecological patients and from its sometimes misleading symptoms which often cause us to make a wrong diagnosis and to treat organs that are not themselves at fault. Its classifications by different teachers are many and often confusing. Pozzi's classification is the following: acute interstitial, chronic interstitial, chronic glandular, and chronic polypoid. Winckle speaks of three varieties: glandular, interstitial and fungus, each of which may be acute or chronic. Montgomery's classification is: acute inflammatory, hemorrhagic catarrhal and chronic painful; a very good classification and one that easily included all subdivisions. It may be limited to the cervix, to the fundus, or it may include the entire endometrium. In my own practice cervical endometritis has been most common. The pathogenic germ gains entrance to the endometrium and starts pathological changes. If it is soon cured there may be few evidences of the disease—perhaps a little leucorrhoea, menorrhagia, and some pelvic discomfort. If it is long continued or is very virulent in character the disease spreads to the deeper parts and may travel out into the tubes even to the ovaries, and destructive changes may take place. If it becomes chronic, granulations will spring up or there will be hyperplasia of the

mucosa with the development of polypii. The deeper glandular structures will become involved and there will be hyperplasia of the parenchyma of the uterus. Each of these conditions produces its own characteristic symptoms; and yet it is only different degrees of the same condition.

When we consider the vulnerability of the endometrium the wonder is that any woman escapes. Once a month for about thirty years the endometrium is in a state of congestion and is covered with blood which may be more or less decomposed. The vagina and external genitals are often dirty and foul during the entire menstrual period, thus extending a welcome to the whole family of cocci and bacilli. The cloth which receives the menstrual discharge is often worn until it becomes filthy and smells to heaven, while many of the less enlightened women wear no cloth at all and have a superstition against taking any sort of a bath until after the flow has ceased. Intercourse is often indulged in during menstruation, affording a splendid opportunity for the introduction of pathogenic germs. Think of the traumatism inflicted upon the endometrium at the time of every abortion or labor. Think of the sounds, clean and unclean, which are introduced into the uterus by bungling hands; of the bougies, quills, pencils, hairpins, etc., used by the laity and midwives for illegitimate purposes; of the festive, prolific, and almost omnipresent gonococci (for your gonococcus is a true expansionist); is it a wonder that endometritis is not a rare disease? It is fortunate for women that the endometrium is so resistant; the normal menstrual fluid aseptic, and the vaginal secretions a poor medium for the growth and development of pathogenic germs.

The most frequent cause in the non-puerperal state, is the gonococcus, and in the puerperal state, the different pyogenic organisms, of which the most common is the streptococcus pyogenes. The staphylococcii, gonococci, and bacterium coli commune may also be the infecting agents after confinement. The gonococcus plays a very important part in this enlightened and most Christian nation, it being the etiological factor in thirty-five per cent. of all cases, according to good authority. Some good authorities place the per cent. even higher than this. In-

fection after abortion is very common, probably more so than is generally supposed on account of the impossibility of getting true histories of many of our cases. Many abortions are never confessed. After an abortion patients are not as a rule as careful as after a labor at full term. A miscarriage is looked upon by the laity as being a light matter. The consequence is that women get up sooner than after a full-time labor, before involution is completed and while the flow is still profuse. Many women, to hide their shame, do not go to bed at all after an abortion. They can not or do not change their occupation or manner of living and go about with the system debilitated by hemorrhage, physical or mental suffering, and a genital tract susceptible to any infection with which they may come in contact. The same is true of cases after a labor at term except that the latter generally receive better care and remain in bed longer. Infection may follow the use of unclean instruments, dilatation of the cervix, currettage of the endometrium, subinvolution, or laceration of the cervix during labor, the use of dirty tampons, etc. A small proportion may not be due to infection, but may be caused by venous congestion, sudden suppression of the menses from taking cold, unclean coitus, constipation, sedentary habits, etc. Byford says endometritis may be caused by excessive coitus, masturbation, ovaritis, uterine fibroids, inflammation in neighboring pelvic organs, and interference with uterine drainage; but in many of the cases some form of infection is the real etiological factor.

One of the most constant symptoms of endometritis is hemorrhage. It may be either a menorrhagia or a metrorrhagia. But every abnormal uterine hemorrhage is not caused by endometritis. Hemorrhage may be the result of cervical erosions or lacerations, tumors, cancer, malposition of the uterus interfering with its circulation, resulting in a passive venous congestion, constitutional diseases, such as scurvey, the exanthematous fevers, typhoid, diseases of the heart or kidneys, obstructed portal circulation, etc. Next to hemorrhage as a symptom comes leucorrhoea. A thin, purulent discharge is characteristic of corporeal endometritis; a thick, tenacious mucus points to the cervical variety. When the disease affects

the whole endometrium the discharge is of a mixed character and is frequently sanguinolent even during the inter-menstrual period. Other symptoms are pelvic pain and tenderness, pain in the back and thighs, headache, poor appetite, frequent and painful micturition, constipation, cardiac palpitation, nervousness, insomnia,—in fact, almost all the diseases to which flesh is heir will be represented by their reflex counterfeits.

There is a form of endometritis in which there is no hypersecretion and not much disturbance of the menstrual flow. There is a very severe dysmenorrhoea, and a good deal of pelvic pain and discomfort between the menses. There is pain located at the emergence of the ilio-hypogastric, the anterior external femoral cutaneous, the spermatic, and the ilio-inguinal nerves. There is reflex pain in the intercostal and precordial regions, and in the organs under the influence of the hypogastric, solar and renal plexuses. On inspection the cervix appears normal with the exception of a deepened color. The uterus may not be much enlarged. Introducing a sound into the uterus causes agonizing pain, sometimes causing the patient to faint or have a convulsive seizure. The inflammation is located in the mucosa lining the fundus—especially at the openings of the tubes and the internal os. The pains are similar in character to those experienced by patients suffering from fissure of the anus. This condition is often diagnosed pelvic neuralgia or is attributed to a general neuropathic condition; but treatment indicated by such a diagnosis utterly fails to give relief. Prof. V. T. Sneguireff, who has made a careful study of the disease in this form, has named it endometritis dolorosa. He regards the pain located at the points of emergence of the nerves above mentioned as being pathognomonic. He completely cures these causes by adopting the same method we use in curing fissure of the anus—that is thorough dilatation. After dilating the cervix he packs it with iodoform gauze, not for drainage, but for its effect on the endometrium. It would seem as though the method of cure and its results proves the diagnosis and pathology.

The treatment of endometritis must be both constitutional and local. I have mentioned constitutional treatment first in-

tentionally. Diseases of special organs cannot be easily cured when the whole system is depraved. We read of drugs, or combinations of drugs prepared by our manufacturing chemists, which have a certain selective action on the uterus or endometrium; but the use of these preparations alone is generally followed by disappointment. We must treat the patient as well as her uterus. In acute cases she must be put to bed and kept there for several weeks if possible. Hot vaginal douches must be administered, their frequency depending on the acuteness and severity of the individual case. If there is pus or much discharge from the os, intrauterine irrigations of hot, aseptic solutions should be given. If there are retained secundines following labor or abortion, we should precede the irrigations by the use of the dull curette. Generally speaking, however, I do not use the curette in acute endometritis, as its use often opens up an avenue for the entrance to the system of the germs we are trying to get rid of. After each irrigation I like to mop out the uterus with pure creolin. The bowels must be kept loose, and for this purpose I am in the habit of prescribing a pill called "Pill Cascaria Cathartic," made after the formula originated by Dr. Hinckle. As these cases become chronic or subacute, or if they are such when they come under your care, the patient does best in bed. But many patients cannot or will not go to bed. These constitute a large per cent. of our endometritis cases. The best we can do with them is to induce them to discard their corsets, have their skirts hang from their shoulders, and lie down for a longer or shorter period each day. The uterus must be replaced and maintained in position if we find it malposed. We will generally find it enlarged and heavy, the cervix often eroded, with a gaping os; or there may be laceration and eversion of the cervix, the everted mucous membrane being covered with granulations which bleed at the slightest touch. These granulations usually extend up the cervical canal to the internal os and sometimes to the fundus. It is in this class of cases, where the endometrium is covered with granulations, and the uterine mucosa thickened that the use of the sharp curette gives such brilliant results. If the whole endometrium is thoroughly cur-

etted, irrigated, and then mopped with pure creolin, the result will be almost magical. I know that many who are thought to be good authorities condemn the use of the curette, not only in this, but in nearly all classes of cases; but experience is the best teacher, and while I get such good results from its use I shall certainly continue to use it. Of course the only way to repair a cervical tear is to repair it. Unless this is done the case will be constantly relapsing. Having thoroughly curetted the endometrium, irrigated it with a hot antiseptic solution, swabbed it with pure creolin, and repaired the cervix, the next step is to reduce the enlargement of the uterus, and tone up its relaxed ligaments. Wool tampons saturated with a ten per cent. solution of ichthyol in glycerine applied to the cervix and changed every two or three days will not only overcome the subinvolution, but will relieve pelvic pain and congestion as well. Every second day, or third in some cases, the physician himself should remove the tampon, administer a hot douche, and reapply the tampon (a fresh one of course), before the patient changes her position. In this way the pelvic vessels are constantly being depleted, the heavy uterus is not allowed to drag on its weakened and relaxed supports, and the supports themselves are recovering their natural tone. Besides all this, intercourse, which is not to be indulged in by these patients, is made impossible and the parts are given physiological rest.

If this plan of treatment is thoroughly carried out, and at the same time the patient be given such constitutional treatment as will be indicated in each individual case, complete return to health may be anticipated in a large majority of cases.

REPORT OF A CASE.

BY DR. E. C. WAGNER, WILKES-BARRE, PA.
READ MARCH 5, 1902.

Mr. President, Members of the Luzerne County Medical Society.

Because of its rarity I thonght it of interest to report a case of Hydatidiform mole. According to some it occurs once in 20,000 births; according to others once in 2,000 to 3,000.

I consulted Prof. Hirst concerning the same and he wrote me the following note:

FEBRUARY 19, 1902.

DEAR DOCTOR WAGNER.—I do not know of there being any connection between goitre and myxoma of the chorion. I should think the degeneration of the thyroid and the mucous diarrhoea were coincidences. Myxomatous degeneration of the chorion villi only occurs about once in two thousand pregnacies, and is therefore quite rare. If you can easily spare the specimen, I should be glad to have it as we only have two or three in the University collection. One has always to think in these cases of malignant degeneration of some portion of the chorion villi left behind in utero. A syncitioma malignum is very commonly associated with myxomatous degeneration of the chorion villi.

Thanking you for your kind letter, and with best wishes, believe me, Yours sincerely,

B. C. HIRST.

The aeteology of the disease is wrapped in darkness; we know that there is a cystic degeneration of the chorionic villi, and that the cystic villi of a clear semi-fluid contents (albumen, mucin, water), vary in size from that of a pin head to that of a walnut. We also know that this aggregation of villi may attain dimensions sufficient to distend the uterus to the size of a full twin pregnancy. Oftimes we have the appearance of a cluster of grapes, the grapes the degenerated villi, the stems the undegenerated ones. Some of the cysts have distinct pedicles, as I shall show you in this specimen. In my case the growth of the fetus was certainly disturbed, as it is missing, and we have the decidual tissue remaining. On rare occasions the fetus will go to full term. Some assert that carinoma

or syphillis on the mother's part, others that disease of the fetus is the cause (as would seem from the fact that a sound fetus may develop at the same time with the hydatidiform mole, and that in case of the death of the fetus often so little degeneration has occurred in the chorionic villi as not probably to have caused the fetal death.)

Symptoms—Enlargement of the uterus greater than would be expected according to the time of pregnancy—Hemmorrhage from the uterus. Escape of the cysts.

Mrs. S., age 45, has always been well with the exception of rather frequent emesis gravidarum during the present and former pregnancies. She has had two miscarriages and three still-born children, four children living. Always had severe labors, several forceps deliveries; the baby is five years old. This was her tenth pregnancy. She has had a slight goitre for years, which caused her no inconvenience. Her menses were always regular until November 1st, 1901, from which time she dated this her last pregnancy. About November 1st her goiter commenced to increase in size; she had frequent attacks of emesis, marked dyspnoea and tremors, anorexia; passed daily about one pint of high colored urine, slightly albuminous, rich in sediment. About the 20th of December she commenced to have uterine hemorrhages, at times considerable and other times but an oozing. These would last for a day and stop for a day or two, only to recur.

I saw her on December 30th, 1901, for the first time, and upon examination found the following conditions: Patient of small stature, rather emaciated, flesh soft and flabby, face flushed, dyspnoea, right-sided goiter, tremors of both upper and lower extremities, temperature normal, pulse 120 to 130, small, weak, and soft; tricuspid regurgitation, palpitation and visible pulsation of the aorta.

Diagnosis.—Graves' disease. The abdomen was distended as in a seven months' pregnancy; fundus could be felt midway between umbilicus and ensiform cartilage. Urine scanty, high colored, specific gravity 1024, slightly albuminous, no casts, no sugar. The urinary secretions varied from ten ounces to a pint per diem; three to five mucous stools daily. On January

1st, 1902, oozing started again; some clots passed; the pulse was now between 140 and 160. On January 16th a severe hemorrhage occurred saturating mattress and going through upon the floor. Upon examination I could pass a finger through the cervix and thus obtained a small portion of the degenerated chorion. Having no gauze I washed some old linen in a Lysol solution, then saturated it in a 1-1000 bichloride solution and tamponed the vagina. This checked the bleeding. On the 18th I removed the tampon, found the os quite patulous and went up with a Rheinstaetter spoon and removed the beautiful specimen which I here present, with a two and one-half months decidua, no fetus, it having escaped. Dr. Fisher assisted me. Because of her condition it was not deemed advisable to give an anaesthetic.

As regards her Graves' disease: When I first saw her I gave her Strych. 1-30 t. i. d. also atropia 1-100 t. i. d.; Tr. Iodi to goiter. Faradization of vagus. Thryoid extract caused increased palpitation until finally she could bear but two grains per diem. Her stomach became very irritable, until finally she vomited everything she took and my anti-emetics had no effect, everything was rejected with the exception of small doses of creosote. On the 18th of January she passed but two ounces of urine, before this she had been taking Pot. Acet. and Inf. Dig. mixture but it seemed to have little effect. I then put her on Diuretin gr x every four hours, with the desired result. Graefe's symptom became marked at this time, especially when sleeping. No Stellwag symptom.

On the eve of the 18th (she had been curetted in the morning), her condition was the following: Temp. 100 4-5; pulse 150; respiration 32. Digitalis seemed to have no effect; because of the large uterus I gave her Pil. Ergotin, grs. 2 t.i.d. for three days. On the 19th she could stand thyroid extract 1-2 gr. t. i. d. On the 20th I stopped the Digitalis and gave her one grain of Suprarenal capsule which seemed to give the heart more tone and gradually brought the pulse down to normal during sleep. Since this time her condition has varied, the goitre has decreased in size, but her pulse and general nervous condition showed little improvement.

INFLUENZA.

BY DR. C. W. PREVOST, PITTSTON, PA.
READ MARCH 19, 1902.

La Grippe, epidemic catarrhal fever is an acute contagious disease due to the baccillus Pfeiffer. Its chief symptoms are due to catarrh of the respiratory and digestive tracts, while profound muscular and nervous prostrations, and grave complications often present themselves. The disease may be endemic though more often it is epidemic or pandemic.

Historic—Every portion of the globe has been the scene of the visitation of epidemic Influenza. More rapid than any other disease belonging to this class does it traverse the country and in a remarkably short time a whole nation may suffer. As a rule, influenza develops in epidemic proportions in the east and spreads with unparalleled rapidity in a westerly direction.

The first epidemic of the disease in the United States appeared in 1674, though it has since frequently prevailed. Outbreaks have not been observed with any regular periodicity. The last pandemic of influenza originated in Bokhara, in May, 1889, reached St. Petersburg in October, Paris in November, and London in December. In America cases began to appear about the middle of December and rapidly spread until it reached its maximum in January, 1890. Reappeared in 1891, less extensively. Again in light form in 1891-1892, and winter of 1892-3 only few cases occurring. In 1895 the disease was epidemic and again in 1897.

As to Pathology, there are no special anatomic lesions that characterize the disease—rare instances where death occurs in uncomplicated cases show marked catarrhal conditions of respiratory and digestive mucosa. Sometimes in the abdominal types there is enlargement of the glands of Peyer and the solitary follicles—most of the fatal cases are due to complications like pneumonia, pleurisy, empyema, pericarditis, nephritis, cerebro spinal meningitis, abscess of the brain, and appendicitis.

That the disease is microbic in origin can no longer be doubted. Early in 1892, Pfeiffer discovered a baccillus which has been shown to be the true cause of influenza—it is observed as a small dum bell having knobbed ends connected by a rod-like shaft. They are obtained from the sputum and are never present in any other disease, sometimes found in pleura and blood. It is cultivated on agar and other media but not on gelatin. Injected into rabbits and other animals it causes a typical influenza.

Modes of conveyance—naturally a specific germ that is propagated with the usual rapidity that marks the bacillus of Pfeiffer must be air borne. Even this view fails to explain satisfactory coincidental prevalence of the malady at widely separated points at the same time. Pepper suggests, that the micro-organism may be almost universally distributed, but only capable under ordinary circumstances of causing occasional and sporadic cases and that under certain extraordinary atmospheric conditions, it acquires a degree of virulence that renders all subject to its attack.

Predisposing causes are few and unimportant, since all are subject to an attack. Age has slight influence, the period of greatest susceptibility being from the twentieth to thirtieth year. The very young are less liable than older subjects, and are apt to be affected last in an epidemic. While old people are frequent sufferers, and this is true of all who are of lowered vitality from some chronic disease, the two extremes of life usually are more liable to complications, as their resisting powers seem to be less. The active period of life being more susceptible, may be explained by the reason they are more exposed to the contagion in the duties of life. One attack does not bestow any immunity. Relapses are very common, about ten per cent. of the cases. Many suffer with the reappearance of a fresh epidemic, so they may have several attacks.

Recent investigations have shown that decided antagonism exists between influenza and malaria, and that during an epidemic prevalence of the former, the latter has suffered a great decline. This may be due to the season of the year, as influenza

is more prevalent Fall and Winter, and malaria Spring and Summer.

Clinical History—Incubation period very short, rarely exceeds two or three days. The onset sudden with either rigor or repeated shiverings, accompanied by rapid elevation of temperature which may reach 104 or 105 F., intense headache, distressing pain in muscles and great prostration. Nervous symptoms out of proportion to temperature and pulse. The primary fever rises greatly as does the other symptoms, both local and general. Profound prostration in the vast majority of instances in the invasion period. Much depression of spirits, restlessness and insomnia and frequently delirium are among the prominent nervous phenomena. The affection may set in by vertigo, by apoplectic features, by billious vomiting, and nose bleed sometimes occurs. The most striking symptoms pain, many times referred to forehead, temples, occiput, eyeballs and root of nose. General muscular pains are apt to be present and chiefly in the lumbar regions. Temperature may be high at beginning but usually remits during first twenty-four or forty-eight hours and runs a mild course, sometimes irregular, and may terminate by crisis. Sometimes runs a week or ten days. Pulse feeble and irregular and may intermit, cardiac debility sometimes an alarming symptom and occurs independently of pulmonary complications; same is true of respirations. Sweating may be a troublesome symptom. There are many different types (A) respiratory, (B) gastro intestinal, (C) cardiac, (D) typhoid (E) rheumatoid.

After temperature becomes normal, patient shows marked prostration and no disposition for mental or muscular exertion. In cases of average severity, convalesence is usually protracted and in severe forms decidedly so. Complications have been referred to many, such as pneumonia, etc. There may be found any condition resulting from catarrhal condition of mucous and serous membranes. The diagnosis, except in ill defined sporadic cases, presents no difficulty—some times may be confounded with climatic catarrhal affections, enteric fever, pneumonia, cerebro spinal meningitis.

Sequela—Gangrene or abcess of lungs, tachycardia and angina pectoris, chronic gastro-intestinal catarrh, and chronic nephritis or cystitis may also be mentioned. Among the nervous phenomena to be noted are insomnia, neuralgia, migraine, melancholia, mania, meningitis, acute ascending myelitis, locomotor ataxia, peripheral neuritis, organs of special sense; otitis media, mastoid abscess, conjunctivitis, iritis, acute glaucoma and paralysis of accommodation.

The prognosis is good. Almost all fatalities are due to complications. In the very young and very old and chronic cases it becomes a more serious disease than at other periods of life. Mortality usually forms ½ per cent. to 2 per cent. Duration of attack brief though subject to variations. Mild form from two to four days, severe seven to ten days. Duration of epidemic rarely exceeds from four to six weeks. (*Treatment*—prophylaxis.)

Experience has shown that many drugs which have been advanced for preventive effect, such as quinine, salcin, etc., are devoid of value. The strongest are not immune and those at either extreme of life should be most carefully protected by proper wearing apparel and should not be exposed to unfavorable weather conditions. In this way we may lessen in a measure the number of cases. Inmates of hospitals and prisons have been known to escape the disease. Isolation should be carried out in a hospital and as far as possible in private houses. E. W. White has reported an epidemic of influenza that was successfully abated by street isolation of patients. Disinfection of the catarrhal discharges, particularly the bronchial, is necessary.

The Attack—Mild cases may need nothing more than rest in bed and a light diet for a few days. Milk, eggs, rice, gruel, fresh vegetables or stewed prunes. Cooling drinks are to be preferred to hot ones—lemonade and effervescent mineral waters, etc.

Moderate doses of gelsemium, quinine, dovers powder, camphor monobromate every two or three hours. Mild cases need no stimulants. Complications are to be treated as they arise. Insomnia may require trional, sulphonal or opium. Local ca-

tarrhal symptoms must be treated according to special indications of each individual case.

Convalescence from influenza requires rigid supervision. The greatest injury to patients comes from going out too early. A good rule is not to allow a patient out until the temperature is normal for several days. Tonics, such as gentian, strychnia and whiskey are usually indicated.

CASE I.—J. W., age 44; good health up to present illness. Came to my office Feb. 8, 1901, complained of great pain in head, back and limbs and said he had been sick for several days but had attended to business. Examination found rapid pulse, temp. 101, diagnosed it a case of influenza, prescribed for him, told him to go home and go to bed; saw him following day, found him resting comfortably in bed; two days later called and he complained of much pain in abdomen, a localized tenderness in region of appendix. I called a consultant who agreed it was a well marked case of appendicitis; operation was considered, but thought best to wait 24 hours; used ice applications, gave divided doses of magnesia sulf.; the pain was relieved and mass soon disappeared; three days later pneumonia of right lung developed; consultation again; diagnosis concurred in; pain very severe in right side and much mucous in lungs; resp. 32 and short; temp. 102.1 F., pulse 120, perspiring freely, much delirium and patient did not recognize nurse or family; about 3 a. m. on 15th, or 6th day of disease went in collapse. Resp. slow, labored, pulseless and a comotose state; nurse gave strych. and whiskey hypodermically. When I arrived found the man very weak; continued stimulants; enema of hot salt solution and whiskey; soon reaction set in; man made slow but good recovery. The case at no time had a temperature above 102.8, pulse not above 120 and yet he had all the delirium and subsultus we find in high temperature of pneumonia and enteric fever. There was no albumen in urine, yet there was retention so he had to be catherised for several days.

Case II. A. S., age 24, single, clerk; at the age of 16 he had a compound fracture of the skull in right occipito parietal

region; there was extensive injury to the bone and quite an extensive portion of bone was removed; made a good recovery; 12 years later had a tumor removed from back of neck at University Hospital by Dr. Ashhurst, which healed and no more trouble until present illness. March 20, 1899, I was called to see patient; found temperature 103, rapid pulse, coated tongue, complained of pain in head, back, limbs, some cough and sneezing. Pronounced it influenza; gave divided doses of mild chloride, gelsemium, phenacetine and quinine, milk diet and remain in bed. In 3 or 4 days the temperature came to normal, pulse slow and full, furred tongue, severe pain in region of mastoid; put on leeches, gave phenacetine and quinine and gelsemium, no result; however the leeching seemed to relieve pain for a time and he seemed to have more serious trouble when he would attempt to walk or stand; complained of vertigo; abdomen rigid; bowels constipated, temperature normal, pulse slow; no remedies seemed to relieve pain except morphia. I diagnosed it abscess of brain and removed him to City Hospital April 6, where he could get more attention. Dr. Fell took charge of case and for a time he seemed to improve, his temperature continued normal or sub normal, pulse slow, and for a time he sat up in a chair; the latter part of May he again took his bed and about June 5 he began to have some elevation of temperature and died quite suddenly June 8th. I performed an autopsy and found about one ounce of pus in left cerebellum. Dr. Chas. Long reported a case similar to this May, 1896.

DISCUSSION.

Dr. L. H. Taylor.—Those of us who were practicing medicine twelve years ago will recall, I think, that the cases of Grip in the first epidemic the winter of 1889-90, were of a severer type than any we have had since. Patients complained of an excruciating headache and great depression. And while it may be true, as Dr. James says, that much of the depression in Grip cases comes from the use of coal tar products, it was nevertheless the fact that in many of these earlier cases great depression was a marked symptom before any medicine was given. I recall, too, that in the earlier months of 1890 there

were many cases of acute ear trouble frequently involving the mastoid that came as a direct sequel of the Grip. Mastoid disease has been far more prevalent in the past ten years than it was previously and no doubt there have been more mastoid operations performed since the beginning of 1890 than there were in all the preceding years of the nineteenth century. It may be said that there are more surgeons performing this operation and recognizing the disease. This is true and accounts in part for the great activity in this line of surgical work, but the disease itself is more prevalent and I believe it due largely to the prevalence of Grip.

Dr. W. G. Weaver. — On two points I am distinctly in accord with Dr. James concerning the treatment of influenza. First, on the importance of rest. I know of no disease in which there is a greater prostration in the beginning than in influenza. There is evidently in this disease a high grade of toxemia resulting from the specific germ. This should impress upon us the importance of early and sufficiently prolonged rest. Where absolute rest is secured nearly all the patients make a good recovery but where it is impossible to confine the patient to bed or even to the house and frequent relapses occur, the distressing after effects are common. In the second place, I fully agree with Dr. James on the injurious consequences resulting from the use of the coal tar preparations. The many cases of weak and dilated heart following influenza are doubtless due to two factors—the lack of sufficient rest and the injudicious use of the coal tar preparations. In many of these cases strychnia should be used early and hypodermically and afterwards continued for some time in full doses three times a day. I believe where this practice is carried out, joined with proper rest in bed and in the house, very few cases of weak heart will be encountered. We should never lose sight of the fact that we are not dealing in this disease with an ordinary cold, but with a toxemia, which, in many cases, is profound.

PURPURA HAEMORRHAGICA.

REPORTED BY DR. R. L. WADHAMS,
MARCH 19, 1902.

M. R., American, carpenter by trade, aged twenty-four years; family history, rheumatism; otherwise negative. Previous personal history good.

February 18th, 1900, felt a little ill, had a dull headache, but was able to work.

February 21st, his nose began to bleed, not profusely but steadily. It bled seven hours.

February 23d, his nose bled three hours.

February 26th, his nose bled four hours, making fourteen hours in all. From then until March 3d he had numerous small hemorrhages from his nose and mouth.

March 3d he had a very profuse hemorrhage from his nose, controlled with difficulty by packing.

On the first day of these attacks, February 21st, an eruption appeared extending over the greater part of his body and limbs. It was hemorrhagic in character.

On February 25th, he had an attack of facial paralysis on the right side. This was slight and nearly disappeared in a week.

March 4th, patient first came under my observation, he was a large, muscular, well-built man. He was very weak and pale. He could hardly walk on account of weakness. His nose had been bleeding for some hours and still continued to do so. Bleeding could only be controlled by firm gauze packing. There were hemorrhages into the conjunctiva. During the afternoon he vomited large amounts of both fresh and decomposed blood. Pulse 128 and weak. Temperature 99.6. Respirations, 28.

March 5th, weakness increased, otherwise his condition was about the same.

March 6th, the hemorrhage persisted, and the eruption had increased in amount and was deeper in color. Pulse was 156. Temperature, 102. Respirations, 40. Toward the latter part of the afternoon he became unconscious, developed symptoms of cerebral hemorrhage, had cheyne-stokes respiration and died.

STRICTURE OF THE OESOPHAGUS.

WITH REPORT OF A CASE.

BY DR. HERBERT B. GIBBY, PITTSTON, PA.

READ APRIL 2, 1902.

It is an old saying that "the way to a man's heart is through his stomach," and consequently, the way to a man's stomach must also be of no little importance.

It is to a consideration of stricture of this latter structure, the oesophagus, that we invite your attention this evening.

A slight review of the anatomy of the oesophagus may not be out of place here, as the location of non-malignant strictures largely depends on anatomical relations.

The oesophagus is a muscular canal about 9 inches in length, commencing at the upper border of the cricoid cartilage, in front of the intervertebral disc between the 5th and 6th cervical vertebra, and passing downward in front of the spine through the posterior mediastinum and piercing the diaphragm, terminating at the cardiac orifice of the stomach. Its lumen is narrowed at its upper extremity by the cricoid cartilage, and at a short distance from its lower extremity where it passes through the diaphragm; also near its middle where it crosses over the left bronchus. Its direction is almost vertical, curving slightly to the left at the base of the neck and again at its lower extremity. It lies in an especially protected position, and is thus rarely affected by external injuries, but its proximity to the heart and large vessels of the neck and thorax give it a surgical position of some importance. In the neck it lies in relation with the two carotids, especially the left, the lateral lobe of the thyroid gland, and the recurrent laryngeal nerve; but its most important relations are in the thorax, where it comes in proximity to the left carotid and subclavian arteries and the posterior surface of the pericardium, but especially with the aorta, around which it makes a complete half turn, lying at first posterior to the left side of the arch of the aorta

(the trachea intervening), then passing to the right of the descending aorta and finally winding around it in front of and over the left of this artery just previous to piercing the diaphragm.

Stricture of the oesophagus may be divided according to its aetiology, into three classes, malignant, cicatricial and spasmodic.

The *spasmodic variety*, also konwn as œsophagismus, is purely of a reflex character and occurs usually in neurasthenic patients. The symptoms are not unlike those of true stricture, but the suddenness of the onset, the nervous condition of the patient, and the absence at certain periods of the dysphagia and finally the passage of the bougie, will serve to diagnose the spasmodic from the malignant variety, with which it is most likely to be confused. An occasional passage of the bougie, together with remedies for the alleviation of the nervous condition, usually meets all the requirements of treatment.

The *Malignant Strictures* are either of a carcinomatous or sarcomatous nature, the latter condition, however, being so rare that it is seldom diagnosed during life.

The carcinomata are usually primary and only occasionally give rise to secondary infection; they may, however, result from a primary growth in the mediastinum, stomach, tongue, epiglottis pharynx or larynx. They occur as squamous epithelioma-ta and are usually situated at one or the other extremity, but may effect any part of the œsophagus. They are more common in men than in women, and are scarcely ever present before the age of 45.

The symptoms usually begin with a progressive dysphagia, later some vomiting, loss of appetite, progressive emaciation and, if the disease is high up, cough and loss of voice due to involvement of the larynx and its nerves. Pain may or may not be present.

The diagnosis is usually made by exclusion, together with the cancerous cachexia, and a microscopic examination of any particles of the tumor that may be removed by the bougie. If the tumor is so situated as to involve the ganglia of the cervical sympathetic, a difference in the pupils may be present.

The treatment in these cases can of course only be palliative.

The best results are obtained from the employment of a Symonds tube when practicable. This consists of a short tube, slightly tapering at the lower end and funnel-shaped at the upper end, which is introduced with an obturator until the funnel enlargement prevents a further introduction into the oesophagus. It has this advantage that it may be left in site for a period of time varying from two weeks to two months. Liquid food is quite readily swallowed through the tube. Where this is impracticable, the only alternative is gastrostomy and feeding of the patient through the fistulous opening. In an advanced stage of the disease, a fatal termination may occur at almost any time by an involvement of and rupture into any one of the many vital structures with which the oesophagus is so intimately connected. If into the mediastinum or pericardium, by the comparatively slow process of septic infection; if into the trachea, by the more rapid pneumonia, and if into the aorta, death results almost immediately from the terrible hemorrhage which occurs.

The remaining variety of stricture, the *cicatricial* occurs as the result of any condition which produces a severe acute oesophagitis or ulceration within the oesophagus, or from any tumor pressing on the structure from without. Among the former cases may be mentioned the lesions produced by the ingestion of corrosive liquids, the ulceration complicating infectious diseases, especially typhoid fever, syphiltic or tuberculous ulceration, thrush-fungus, impacted foreign bodies, etc. Among those producing pressure from without may be mentioned aneurism, enlarged thyroid, enlarged lymphatic glands, intramural abscess, tumor of the mediastinum, etc. The stricture is usually single and occurs most frquently at the site of one of the natural constrictions, *i. e.* at the beginning of the oesophagus opposite the cricroid cartilage, where the oesophagus passes over the left bronchus, or where it pierces the diaphragm; the first two positions naturally being the more usual sites.

The greatest care should be exercised in the diagnosis of the cause of the stricture, as upon this largely depends the treat-

ment. In all cases aneurism must first be excluded before the passage of the bougie, and in carcinomatous cases this procedure must be carried out with the utmost care.

The treatment consists in the dilatation of the stricture whenever possible. When the case is seen in the early stages of stenosis, this procedure can be readily carried out with the graduate bougie, before the stenosis becomes so marked as to present any great difficulty, but unfortunately, a great many of the cases only come to our care when the stenosis is marked and the greatest amount of trouble is frequently encountered in getting the bougie through the stricture. In cases where it is impossible to pass the bougie from the mouth, a so-called *retrograde dilatation* after a gastrostomy is the only course left, after the opening in the stomach is made, the bougie is passed upwards and a silk thread is carried through and brought out of the mouth and the stricture is cut by a sawing motion of the silk. The stricture may then be dilated in the usual way from the mouth.

A method which I saw carried out while I was in Vienna, was to draw a fine sized rubber tube from the stomach opening up through the stenosis, having one end projecting from the fistulous opening, the other from the mouth. The size of the tube just large enough to produce a continuous pressure on the stricture. This is left in situ for a week, the patient during the meantime being fed through the fistula, when it is replaced by a larger tube and so on until the required dilation is reached.

REPORT OF CASE.

The case which I wish to report is one which Dr. Guthrie kindly sent me.

Thomas W., aged 18 years, was employed as a general utility man at the local theatre in Pittston. About two months prior to consulting me he had met with a peculiar accident resulting in a burn of the oesophagus. He was attempting to produce a flash by blowing a gas flame against some lycopodium powder; for some reason the powder failed to ignite immediately, and when he drew in his breath, the explosion took place and some flame was blown into his pharynx and oesophagus through the tube.

He was treated by a local physician for the acute burn, and

finally began to have symptoms of stenosis. When I first saw him in July 1899, he had a well developed stricture at the upper margin of the oesophagus just posterior to the cricoid cartilage and was able to take only liquid food. This stricture readily admitted the small sized bougie and was rapidly dilated without any special difficulty. Thinking that I had entirely relieved the condition and not making a thorough enough examination, I made a rather serious blunder in allowng him to eat some solid food. Being half famished, he ate some beefsteak, but he was unable to swallow it ,and to add to his discomfort, he was unable to swallow liquids, the saliva itself even being regurgitated. On a more careful examination with the bougie, I found a second stricture at the point where the left bronchus is crossed by the oesophagus, which was entirely occluded by the meat he had eaten, and which, after several attempts, I was unable to dislodge. I repeated these attempts three times a day for 3 days, but unsuccessfully, during which time the patient was unable to swallow even his salva. The idea then occurred to me to digest the meat, which I succeeded in doing in about five hours with some pepsin and dilute Hcl. He was then able to take some liquid food, although with great difficulty, and for a week I persistently tried to pass my smallest sized bougie through the stenosis.

The idea of the tunnelled catheter as used in stricture of the urethra then occurred to me, and after several attempts I was able to pass a filiform bougie through the stricture. A jeweler drilled the bulb of my bougie so that the filiform would pass through it and I was shortly able to pass my smallest bulb through the stricture.

No further difficulty was encountered, but I had not dilated the stricture three-eighths of an inch when he left town.

About a year later he returned and stated that he had had no difficulty in swallowing since I had ceased the dilatation. On introducing the bougie I found that the stricture had not contracted any and as he suffered no inconvenience I did not advise further dilatation.

I have seen him recently and there is no change in his condition.

The time required for the dilatation extended over a period of about three months, at first the bougie was passed every day, later every second day, and at the close about twice a week.

REPORT OF A CASE.

BY DR. N. L. SCHAPPERT, WILKES-BARRE, PA.

READ APRIL 2, 1902.

The case which I present this evening will perhaps interest many if not all of you and it gives me great pleasure to present the same.

Thomas M., aged 13, came to my office with his parents in the spring of 1898 and consulted me about his left eye, which upon examination I found to be hopelessly blind. With the opthmoscope I found no reflex. The tension very high and a corneal scar and an anterior synechia.

The history revealed that he had been struck in the eye 18 months previous with a sharp stick which penetrated the cornea and ciliary region. I recommended enucleation, to which the parents readily consented, as several oculists had likewise recommended the same. On the 28th day of May, I operated on him and for various reasons preferred evisceration to enucleation and used Mule's method, as follows:

The conjunctiva was dissected from the corneo-scleral attachments in all directions back to the equator of the eye ball without disturbing the muscles. The corneo was then excised by passing a Beer's knife through the corneo-scleral margin from side to side and cutting above, then a curved scissors was used to remove the remaining portion of the corneo. Next the contents of the eye ball was evacuated and the inner coats scraped away with a specially devised scoop. Hemorrhage was controlled by hot bichlorid solution and gauze packing. After all hemorrhage ceased a glass sphere was introduced with a special instrument into the scleral coat and the sclerotic coat was then sutured over the ball horizontally and the conjunctiva vertically. Antiseptic dressings were then applied and the patient was confined to bed for three days, with both eyes bandaged for 48 hours. At the end of six days the sutures were removed and at the end of two weeks an artificial eye was worn for the first time.

You can readily see by looking at the patient the advantage this operation has over enucleation.

The stump, after a successful Mule's operation is so superior to that furnished by any other method that if no complications exist there should be no hesitancy in performing this operation, for even if the accident of extrusion of the glass ball should occur the remaining stump is far preferable to any that could be formed after an ordinary enucleation. The danger of the ball being broken is remote, although the accident has happened.

I might say, since the time I operated on this case, a 14K, gold ball is almost universally used.

HYSTERIA.

BY DR. AUGUST TRAPOLD, WILKES-BARRE, PA.

READ APRIL 16, 1902.

The knowledge of this disease dates back to the oldest medical and philosophical writings, for in ancient Greece, the cradle of all science, philosophy occupied itself also with medical subjects. These old sages regarded hysteria as a disease peculiar to women and the uterus its seat. Plabo in describing it said "The uterus is an animal desirous of begetting children, if it remain barren for a long time after puberty it gets angry and wanders through the whole body, closes up the air passages, hinders respiration, bringing in this manner the body in great danger and causes various diseases, until finally desire and love bring together man and woman, producing the fruit which they pluck as from a tree." The same author is also the originator of the saying—Imbat illa et morbus effugsit —regarded almost up to the present time as fundamental principle of treatment and which still lingers in the mind of many people to whom the very name of hysteria is equal to mental and moral perversion. Hippocrates said when the womb as-

cends against the liver and diaphragm, the woman loses her voice, presses her teeth together and becomes black in the face. These attacks generally happen in old maids and young widdows who have born children and remain unmarried. Arebaeus accepted the theory of Hippocrates; according to him the uterus enjoyed delicate odors and it was possible to drive it down by presenting fetid odors to the nose and up by presenting the same odors to the subra, a treatment which was used down to the middle ages. Galen seems to have been the first to recognize the disease also in men. Aetius and Paulus of Aegina accepted the prevailing ideas; according to them hysteria attacks generally young girls who were lascivious and sterile.

During the middle ages hysteria was regarded as possession by the devil. This cause of hysteria was accepted by all with very few exceptions up to the time of Charles Lepois, 1618. He proved that hysteria also affected men and that, therefore, the uterus was not the causative factor. According to him the disease was caused by a serous exudation compressing the brain. In 1681 Sydenham expressed the same opinion as Lepois. But even after this there was much confusion on the subject until Charcot, in 1862, began his researches at the Salpetrian through which he has become famous. His first work was a study of the convulsive attacks; he noticed that these attacks were governed by fixed laws. In the year 1863 he began his clinical lectures, during which he was able to describe the attacks and their characteristics, the laws by which they are governed and the selections between hysteria and epilepsy. To him therefore belongs the credit of having placed the subject of hysteria on a scientific basis. He showed that the so-called hystero-epilepsy was nothing but hysteria and that there was no hybrid between hysteria and epilepsy as some were inclined to believe. He proved conclusively that hysteria and epilepsy were two distinct and characteristic diseases and that although they might exist in the same individual one could never turn into the other. He formulated this idea as follows: hystero-epilepsy, with independent crises, should be regarded

as the coincidence of both diseases in the same person. Hystero-epilepsy with mixed crisis has nothing to do wtih epilepsy, but is hysteria pure and simple.

After these preliminary remarks we will consider the aetiology of this disease. Hysteria is generally transmitted by heredity, the transmission occuring most frequently through the mother. It may show itself at any age, but is most frequent between 15 and 25 years. By heredity we do not mean that the disease as such is inherited but that there is a peculiar instability of the nervous system, so that causes which have no effect on healthy nerve-centers give rise to it.

The hereditary transmission of hysteria was at all times recognized. It has always and constantly been observed that children are afflicted by this disease from birth, but only in the present century has the causative factor of heredity in the transmission of hysteria been more closely studied.

The conditions, says Georget, giving the greatest liability to hysteria, are hereditary disposition, nervous constitution, female sex and the age from 12 to 25. Most sufferers of this disease have among their ancestors those afflicted with epilepsy, hysteria, insanity and hypochondriasis persons descending from hysterical parents are twelve times as liable to the disease as those descending from healthy parents. It is clear, he concludes, that the more strongly the parents are affected with this disease so much the greater is the liability that the children will become hysterical. We can therefore justly say that no nervous disease shows heredity in such a clear manner as does hysteria.

Hammond says: hereditary influence is without doubt an important cause of hysteria. Among 209 cases in which he made careful enquiries, 131 had mothers, aunts, grandmothers, suffering from hysteria; 71 had relatives suffering from other nervous diseases.

Now coming to the existing causes, we may state that all conditions leading to depression of the nervous functions and the general nutrition may give rise to hysteria. Among these are:

1. Emotional and moral shock, fright, grief, disappointment, religious excitement (this was a prolific cause of the disease

during the middle ages), imitation (this we see frequently where many people live in close association—schools, convents and sometimes even in hospitals). The epidemic of the Salem witchcraft owed its origin to some hysterical children.

2. Acute and chronic diseases, as typhoid, diabetes, tuberculosis, prolonged lactation, anaemia, diseases of the generative organs, floating kidney, etc.

3. Defective education is a common cause in children, overstudy, reading of impure literature.

4. Toxaemia, as lead poisoning, mercurialism, alcoholism, etc.

5. Traumata, railroad accidents, falls, bite of dogs, etc.

Symptoms of Hysteria (Hysterical Stigmata).

These are very variable and may be divided into somatic and physical. The most frequent among the somatic are disturbances of sensation, as anesthesia and hyperesthesia, particularly anesthesia, which we shall first consider.

Gendrin was the first who gave a clear description of this sign of hysteria. He said in his letter written in 1848, Hysteria is not only characterized by its periodically recurring convulsive attacks, it is a permanent disease which always shows symptoms, even between the so-called hysterical seizures, sufficient to recognize the disease. In all cases there exists from the beginning a condition of general or partial anesthesia. In slight cases this anesthesia is found only in isolated places on the skin, while in severe cases it exists over the whole skin and mucous membranes—as the conjunctival, the mucous membranes of the nose, pharynx, larynx, rectum, bladder and vagina. Some patients even lose the knowledge of the position of their limbs and the motion of the same.

The most common of the disturbances of sensation is analgesia. Among 240 patients examined by Briquet there was not one who had not some part of the skin affected by this. Whenever anesthesia exists it is generally complete, though at times it is dissociated or partial, that is, only the sense of pain may be lost, the others remaining normal, or all sensibilities may be absent, except that for the electric current.

Although Gendrin and Hernot denied the existence of hys-

teria without anesthesia, Pitres found among 40 cases of undoubted hysteria 2 without anesthesia, and Charcot has shown that in children hysteria often shows itself in the nervous symptomatic form of paralysis, contracture or chorea rhythmica without any trace of sensitive-sensorial stigmata. Hysteria therefore may exist, although rarely without any anesthesia.

Hysterical anesthesia is very variable in extent, it may be total or partial. Total is rare. The partial form shows itself in two different forms—1 Hemilateral; 2 in disseminated islets or in systematic plaques. Anesthesia in plaques and islets seems to be the most common form.

Most hysterical patients have no knowledge of their anesthesia and may discover it only by accident, as on receiving a burn or wound which leaves visible evidence but which has given no pain. Hysterical anesthesia does not only affect the skin but may also affect the nerves, which may be pricked without causing any result, except movement in the muscles to which they are distributed. The sense of position may also be lost; the patient being unable to tell the position of the affected hand and unable to touch it with the sound hand on closing his eyes. The feet do not feel the contact with the floor, making walking uncertain and the least obstruction causes the patient to stagger. Pitres described a perversion of sensibility under the name of naphalgesia, in which there are severe pains produced by substances which in the healthy state produce no ill effect.

Hysterical Paralysis—This is a rather frequent symptom of hysteria and may affect single groups of muscles or may show itself as mono-para, and hemiplegia more rarely as a crossed paralysis or a paralysis of all extremities.

Hemiplegia in hysteria is frequently combined with hemianesthesia, a circumstance which should always put us on our guard, especially if, in contact to cerebral paralysis, the paralysis extends only to arms and legs and does not affect the muscles of the face and tongue. As regards the duration of hysterical paralysis we can only say that they have no fixed time, in some cases it lasts only a few hours or days, while in others it lasts months, years, or during the whole life. Paraly-

sis of single groups of muscles is found most frequently in the upper extremities, while the lower extremities are most frequently the seat of paraplegia. Hysterical hemiplegia is generally found on the left side.

In regard to the reflexes in the paralyzed limb, Richter expresses himself in the following manner: The tendon reflexes are generally increased, while Charcot and La Tourelle say in the majority of these cases we have not found an increase of the tendon reflexes. On the contrary, although complete absence of the tendon reflexes was rare, we could generally observe a marked decrease of the same.

In contrast to peripheral and spinal paralysis we may rarely find, even after long duration, atrophy or the reaction of degeneration, except what could be explained by want of use of the paralyzed limb. French writers, however, claim to have obtained the reaction of degeneration in undoubted cases of hysteria. Dercum also reports a case where this symptom existed.

The facial and hypoglossal nerves are very rarely affected by hysterical paralysis. The same is also the case with the muscles of the eye, but hysterical ptosis is rather frequent.

Not very rarely we find paralysis of the laryngeal muscles, especially the thyro-arytenoid and crico-arytenoid—the patient suffers from hoarseness and aphonia, and if the last named muscles are paralyzed the inspiratory dyspnoea may necessitate tracheotomy?

Another symptom of hysteria may be hysterical contractures. These may develop slowly or quite suddenly, some are of short duration while others may last for years. They generally follow violent mental emotions and attacks of hystro-epilepsy, more rarely a trauma. In contractures of the arm the member is generally in the flexed position, while if the legs are affected they are in rigid extension. During sleep these contractures generally become less but do not disappear, while during chloroform and other narcosis they may disappear entirely. Violent psychical impressions and sudden shock frequently cause a rapid recovery from these contractures.

In many hysterical patients we also notice persistent and

violent tremor. Among the most common and most important symptoms of hysteria are tonic and clonic muscular spasms—hysterical convulsions, but in contradiction to epilepsy, in these convulsions, consciousness generally remains, but in the so-called cases of hystero-epilepsy the patient is generally unconscious.

The convulsions may begin suddenly, but as a rule there are premonitory symptoms which often constitute a true aura. The patient becomes irritable, excited or depressed, sleep is frequently restless and disturbed by dreams. These prodromes may last from a few hours to a few days. The most frequent of the immediate premonitory phenomena is an increased sensitiveness of the hysterogenic zones, the ovaries, testicals, or whatever may be their location. The patient feels as if a ball, the so-called globus hystericus starts from these zones, mounting towards the pit of the stomach and then to the throat. There is a feeling of oppression, of constriction of the pharynx, ringing and whistling in the ears—especially on the side most affected by the stigmata—then the patient sinks down or falls over without crying out, but making sometimes an audible hoarse noise in the pharynx, produced by a sudden inspiration. Consciousness is abolished, the tonic convulsions which begin immediately may be general, but are usually most marked on the side on which the stigmata have predominated. The face is pale, the neck stiffens, the head is thrown back, the throat becomes swollen, the shoulders are elevated, the eyes are convulsed, looking obliquely upwards, the mouth is opened and the tongue is often projected forward or laterally, the teeth are rarely closed and it is altogether exceptional that the tongue is bitten. The glottis closes after inspiration and the chest and abdomen remain swollen, the neck is also tumefied and from time to time there are brisk respiratory movements. All these phenomena are necessarily transitory as is also the respiratory spasm that gives rise to them. The arms and legs are usually extended, the hands clenched, the trunk bent, usually in a mild degree of opisthotonos.

The tonic are succeeded by the clonic convulsions. These movements are not identical with those of the true epileptic fit,

although it is difficult to indicate in what respect they differ. They have as Dercum expresses himself, not the same quality of intensity of reflex activity, and of mechanical force that marks the discharge of the lower centres which constitutes true epilepsy. There is in hysteria always a psychical element which is not altogether wanting even in the most severe seizure. If consciousness is lost it is at least not far below the surface and if the clonic movements are involuntary they are not so profoundly so, that it is impossible to summon the will again to their control. This is seen in the prompt arrest of the fit by pressure over the ovary. The clonic contractions generally begin in the member which was first tetanized. The face makes grimaces, the head and extremities become animated with rapid oscillations, respiration is resumed but is labored and embarrassed, the abdomen has independent and irregular movements of its own and sometimes borborygmi are audible. The clonic spasms gradually disappear and the patient lies relaxed with head to one side, saliva flows from the mouth, consciousness is still obscured and light sleep may supervene. The duration of this epileptic state is according to Richter, about 60 seconds for the tonic and clonic stages. Sometimes one of these stages is modified or entirely absent. During the tonic stage the pupils are generally contracted while during the clonic they become strongly dilated.

This first or epileptoid period is followed by the second—the stage of clownism of Charcot. During this stage violent and extravagant muscular movements occur, either in the nature of disordered contortions or of regulated and apparently purposive feats. The patient may rest only on his head and heels with the upper extremities extended along the side of the body or else on each side of the head. The abdomen projects strongly upwards, often having movements resembling those of clonic spasm. Older writers interpreted this wrongly as indicating sexual excitement, or the patient lying on her back may suddenly bend the body forward so that the head almost touches the knees, this may be repeated many times. The next or third stage has been called by Charcot the stage of emotional or passionable attitude. The urgent symptoms have disappeared.

The voice and gestures may indicate anger, the greatest gayety or more commonly sadness. The existence of hallucinations may be recognized by the attitude of the patient—as if listening attentively or seizing imaginary objects.

After the stage of emotional attitudes comes the stage of delirium; this is simply a continuation of the last stage without the active motor expressions. It is generally a sad delirium, noisy weepings, lamentations, etc.

The duration of the hysterical paroxysm without the delirium is generally from 15 to 30 minutes. The delirium may last from a few hours to a day or even longer.

After an hysterical attack patients generally pass a large quantity of pale, limpid urine.

The mental condition of hysterical patients show many variations. It is a peculiarity of the disease that the sufferers dwell on their symptoms, they desire to attract the attention of their physician and their friends and they fear neither lies nor simulation to gain that object. They may show live frogs, lizards, snakes, insects, claiming to have vomited them or that they came from their rectum or vagina; others show fecal masses which they state to have vomited, others again claim not to have eaten anything for weeks or months, while they eat at night or at any time when they believe themselves unobserved. If these patients consider themselves neglected by their physician or friends they do anything to arouse sympathy, even going so far as to wound themselves or making preparation for suicide, although generally in such a manner that their intention is discovered, for their desire is to terrify their friends, not to say farewell to life.

The duration of hysteria is always chronic. Most are affected with the disease throughout life, sometimes happy circumstances and the obtaining of their desire produces a cure, but it is rarely permanent.

The diagnosis of this disease is, as a rule, easily made, although it is true that very few of its symptoms are pathognomonic, but their variation and sudden changes and the peculiar mental condition of these patients will as a rule enable us to make a correct diagnosis. Special attention is to be paid to

circumscribed anesthesias, hyperesthesias, insensibility of the larynx and pharynx, narrowing of the visual field and painful points.

Treatment—Special attention should be paid to prophylaxis, especially where there is hereditary predisposition.

If the disease has developed the treatment must consider the mental as well as the bodily condition. The physician must get the full confidence of the patient, he must make her understand that he takes great interest in her case and that he can and wants to help her. He must work gradually, always encouraging and making the patient take a more hopeful view of her condition. Control your patient and never let her control you. This is the most important part of the treatment, from the so-called nervines little can be expected; with the use of narcotics we should be very careful.

Freiderich recommended cauterization of the clitoris, castration has also been done, but this should be reserved for cases where pathological changes are present in the ovaries. Hypnotism has given good results in the treatment of this disease and most of the so-called faith-cures are undoubtedly due to aura-hypnosis.

Eichhorst reports good results from warm baths 30 degrees R. of 30 or 40 minutes duration.

Liebermeister recommends cold baths 15 degrees R., the patient to take exercise after the bath until he feels warm.

S. Wier Mitchell has obtained excellent results with his rest cure—isolation, forced feeding, rest, massage and electricity. In some cases a change of air is beneficial.

DIAPHRAGMATIC PLURISY.

CASE REPORTED BY DR. JOHN F. SHAW,
READ APRIL 16, 1902.

Mrs. H., age 45 years; mother of twelve children, two died in infancy, ten living. Family history, good; mother still living, 70 years old and in good health. Previous history, no diseases since childhood.

Present illness began the evening of January 29, 1902; I was called on the morning of the 30th; found the woman suffering with severe pain just below lower border of ribs on right side, pain increased on taking deep inspiration.

Temperature sub-normal, 97½; pulse, 90; cold clammy skin; bowels constipated; vomiting incessantly greenish substance, also everything taken into the stomach was immediately rejected; circumscribed tympanitis in right upper portion of the abdomen.

Gave the patient an enema; nothing, or at least very little, returned except the water. Gave anodyne for pain and a dose of Epson salts, and prescribed bismuth sub-nitrate for vomiting. Next day, January 31, conditions remained nearly the same; pain more severe on inspiration; abdomen a little more distended; nausea and vomiting quite as severe; temperature still sub-normal; pulse 85. Fourth day, February 1st, bowels had moved well. During night pain very much relieved, only present on very deep inspiration; distention of abdomen had almost entirely disappeared. Temperature had risen to 102; pulse 100; vomiting had ceased; a cough had developed with a muco-purulent sputum, which was occasionally slightly streaked with blood. Fifth day, February 2d, very little change. except that the abdominal symptoms had entirely disappeared leaving only the cough which did not annoy the patient very much; temperature, 104; pulse, 100.

Subsequent course of case was uneventful. At the end of ten days from the beginning of the symptoms, the temperature had dropped to normal, the patient made rapid convalescence. The case was interesting to me for the reason that for the first two or three days it had every appearance of being a case of intestinal obstruction.

THE CARE AND TREATMENT OF THE PREGNANT AND PARTURIENT WOMAN.

BY DR. J. B. TOBIAS, WILKES-BARRE, PA.

READ MAY 1, 1902.

It is not within the province of this paper to discuss every phase of this broad subject, but just to call your attention to a few points in the management of normal pregnancy, labor and child-bed, which, in my opinion, are not sufficiently recognized in their importance by the general practitioner.

The trend of modern medicine is toward prevention, and there is no greater field in private practice than is presented in the care and management of normal, physiological pregnancy; labor and child-bed.

One writer has said that fifty per cent. of all gynecological operations are traceable to the simple, normal labors which confront the general practitioner, and which, in nearly every case, by proper medical care and nursing, could be prevented.

The time has come when the laity demand that we should exercise a more watchful oversight of our pregnant and parturient patients. That our supervision of them shall not begin with the inception of labor and cease with a few hasty calls after. But that we shall use our best efforts that the mother shall approach her coming ordeal in the best possible condition, both mental and physical, and that not only her life and that of her offspring shall be preserved but that she shall be returned to her every-day life and duties with a sound mind in a sound body, as far as medical skill and care can effect it. To accomplish this it is not only necessary for us to be accomplished obstetricians, but success lies almost wholly in attention to minute details, and to this end physicians must school their patients to put themselves under medical care as soon as they become pregnant. This is not a task easy to accomplish, as the natural aversion of all women to have their condition known is familiar to every physician. Yet there are not many women among our regular patrons when once brought

to see the benefit accruing to themselves, but would gladly acquiesce. "The first step toward betterment is knowledge." Women must be taught a knowledge of their functional life, its conditions and requirements. When and where are they to obtain this knowledge? If the physician is not appealed to the education of the primipara is left to the grandmother, or perhaps the mother, who consider pregnancy an every-day occurrence, and little or no heed is taken in regard to her care and comfort until she is seized with eclampsia or one of the many conditions which carry off our patients before labor.

There is no other subject of which the laity knows so little and yet so inadequate provisions are provided for the proper instructions in our public schools as the human organism and its functions in relation to reproduction. It is true, physiology and hygiene are taught, but the knowledge is deficient. The school teachers are not sufficiently trained to impart the proper knowledge in the higher grades. I believe this instruction should be given by a physician whose special training has fitted him for the work, and that the girls in the last grade of our grammar schools should receive instruction pertaining to the generative organs and their functions; the changes which take place in the nervous, vascular and digestive systems as well as the uterus and its appendages; the dangers of abortion and miscarriage, and the bad results which follow if proper care is not taken. I feel sure that many a young girl whose life has been lost, or perhaps ruined, would have averted this calamity, had she been cognizant of the dangers before her. Then let our public schools educate the girls so they may be prepared and understand the part they are to take in the function of reproduction, then will the task of the physician be lightened and a step taken, which is the foundation of *preventive medicine.*

"That the mother influences the character of her child in utero and moulds its brain structure cannot be successfully controverted."

The Care of the Kidneys—There are few physicians who make it their practice to examine the urine of their pregnant

patients from time to time throughout their pregnancy, but there are a greater number, from my experience, who never take the trouble unless the condition of the patient becomes so grave that attention and treatment are demanded, when often it is too late and abortion or miscarriage is inevitable in order to save the life of the mother.

"The time to treat puerperal exclampsia is thirty days before it occurs."

It is true we are seldom called upon to treat diseases of the kidneys prior to the fourth or fifth month, but even after that the kidneys may show signs of degeneracy without any warning.

The urine of the pregnant woman should be examined at least once a month; not alone for albumen, but for the amount of urea excreted in twenty-four hours which seems to be a better index to the condition of the kidneys than the amount of albumen. I remember one case of exclampsia in which I found only a trace of albumen. Last summer I was called to see a woman, six months pregnant, who was found dead in bed, and I found her so dropsical that her features were almost unrecognizable, and learned that she had been suffering with all the symptoms of kidney trouble for some time and yet she had never had her urine examined.

During the latter weeks of pregnancy the urine should be examined once a week and at the first indication of kidney weakness, if proper care and treatment is instituted, eighty per cent. of patients who are in danger from renal failure and faulty metabolism may be tided over until they are safely delivered.

Diet is a subject about which there is a great deal of superstition among a certain class of people, especially old women; as I have heard said that a woman with child must not eat too heartily, or she will have a large child and she must shun meat or the head will be large and hard, and the desire is so great to have an easy labor that often their diet is restricted to an extent dangerous to both mother and child. The pregnant woman's system demands more food, both in quality and quantity, than the non-pregnant, and the effect upon the child is

said to be equally as great. The following is a diet list given by some writers:

Milk should be taken in considerable quantities; may be mixed with vichy or other carbonated waters. Meat should not be taken more than once a day; lamb, mutton, fish and oysters are best for them, with raw or cooked food, and with the lighter fresh vegetables in moderation. Graham and whole wheat bread and all cereals are also helpful. All spirits should be interdicted. Coffee and tea check excretion and their use in any quantity should be discouraged. At least one quart of water should be taken a day internally; externally, a cool sponge bath in the morning, and a warm bath at night. For nervousness, restlessness and insomnia there is nothing more soothing. Plenty of fresh air is demanded.

Costumes—We hear of the vigor of the savage woman and of her capacity for work, her ability to follow her tribe on the march, and why is this ? It is plausible at least to say that it is due to her hygienic costume and rational habits and it is a fact that the Indian women are singularly free from derangements of the female generative organs and from difficulties of parturition, and a still more startling fact is, that the women of the more civilized tribes who have learned to follow closely their white sisters in dress and habits of life suffer more frequent complications of parturition than are common among the uncivilized tribes. It is easily seen that much of the suffering and many of the complications of parturition are due to our present mode of dress.

How often we hear a woman say that she can go to her sixth or seventh month of pregnancy without detection, by the use of of her tight-fitting corset and garments, little realizing the danger to which she is subjecting her uterus, kidneys and other organs, to say nothing of the influence it must have upon the growth and formation of her offspring. The clothing should be mainly of woolen garments, for while they may be light in weight, they give much greater protection against sudden changes of temperature to which the pregnant woman is particularly susceptible. The clothing should be suspended from the shoulders and hang loose around the body, and anything

which produces pressure upon the kidneys or uterus, should not be worn.

The Care of the Breasts.—The mother's breasts and nipples often require attention. Drawing out of the nipples, cleaning their surfaces and healing of cracks and fissures in their epithelium. Congenital fissures of the nipples and uncleanliness expose the patient to danger of infection, as bacteria have a direct route to depth of breast through lymphatics. Authorities claim that abscess of the breast is caused by infection through lymphatics rather than through milk ducts, as is generally supposed. An eminent physician has made the statement that any physician who had a mammary abscess in his practice ought to be liable for malpractice. During the latter weeks of pregnancy the nipples should be cleansed with boracic acid solution, bismuth subnit and castor oil, boracic acid ointment, etc., and during the first week of lactation boracic acid solution should be used after each nursing.

At the first indication of congestion of the breast, strict antisepsis should be used with the application of a firm binder and administration of free doses of salines. Child should be taken from the breast and only sufficient milk removed by pump to relieve discomfort of patient. Under this treatment, ninety cases out of every hundred of threatened abscesses will be aborted.

Traumatism.—In the prevention and cure of injury due to child-birth, the family physician has an even more important function in preventive medicine than any other branch of general practice. The lacerations of the birth canal are due either to an abnormal relation between foetus and birth canal or when the relation is normal, too long and tedious labors resulting in œdema of the soft parts. While on the other hand, it is often due to too rapid delivery, either natural or artificial, through the undilated soft parts. That it is impossible for a physician to prevent lacerations is well known to everyone, as they are inevitable and it has been said that a physician who does not have lacerations can be put in one of three classes:

1. Those who never had a labor case.
2. Those who never look for them.
3. Those who hate the truth.

It is true, however, that the intelligent physician can restrict lacerations within their present limits if a more watchful care is taken during the birth of the head and shoulders. This is accomplished by lessening the severity of the pains, with the use of an anaesthetic, thus relaxing the perineum; by pressure upon the descending head to obtain as great flection as possible, thus presenting the head in its smallest diameter and finally to deliver the head between and not during the labor pains. No physician can always prevent lacerations, but all physicians can repair them, and here is where many are guilty of negligence, as is proven by the great number of women suffering from prolapsus, uteri, retrodisplacements, rectocele, cystocele and later endometritis, salpingitis, and a life of invalidism, all being due to a neglected lacerated perineum and cervix.

A short time ago a woman came under my care who for thirty years has had a constant dribbling of urine from her bladder, through a tear which occurred during child-birth. Who can imagine the misery she has endured? And yet she was relieved by a simple operation, which should have been done thirty years ago.

Another woman who has had involuntary movements of her bowels for six years and during all this time has hardly been able to leave the house, the result of a neglected tear of sphincters during child-birth. These are only examples of the many cases which come under the care of the gynecologist every day and the family physician must answer for them. Every woman should be examined within twenty-four hours after labor and any laceration of the perineum should be immediately repaired, and some physicians insist that lacerations of the cervix should also be repaired at this time, but to do that requires more skill, better appliances and more numerous assistants than the general practitioner usually has at his command and for these reasons it is inadvisable for general adoption.

The Puerperium.—The most remarkable and important, and often the most dangerous period of a woman's life, certainly so of her sexual period. The changes accompanying the entire organism to a condition of normal are among the most aston-

ishing phenomena in physiology and with these changes occur the greatest dangers to which the puerperal woman is exposed. Involution, creating an endosmotic flow which tends to favor invasion of bacteria; retention of blood-clots and placenta; traumatism, lowered vitality due to strain of pregnancy and labor, all favor infection and the puerperal woman needs the care of an intelligent physician until involution is completed and all organs have returned to their normal condition.

How many lives of invalidism would be saved if the medical care of women would continue for six weeks after labor instead of three to ten days, as is the usual custom.

Some authorities claim that a woman should get out of bed on the third or fifth day. Thereby they obtain better drainage, stronger uterine contractions and more complete involution; but I believe the majority of physicians try to have their patients remain in bed until the tenth or fourteenth day, although this is not always carried out by the patient. Less than one month ago I delivered a primipara and when I called the next morning found her walking around the room, and the same day she walked over a mile to visit a friend. I would not like to be held responsible for her condition five years hence.

If every woman would receive the proper care during the six weeks following labor, and at the end of that time if an examination is made of her pelvic organs and all abnormalities rectified, I am sure the lives of many women would be saved the suffering they are often compelled to endure and we would have much less use for major and abdominal surgery.

In conclusion, I wish to say that it has not been my intention to present anything new but to call your attention to a few facts in preventive medicine as it is presented to the general practitioner, that we may look forward toward the golden future, when we shall not only be able to meet and cure diseases, but when we shall forsee and prevent them. "Then indeed will our art become a science, and our power be god-like."

TWO CASES ILLUSTRATING THE SUBJECT OF THE BLOOD COUNT AS A GUIDE TO DIAGNOSIS AND TREATMENT IN ABDOMINAL SURGERY.

BY DR. WM. G. WEAVER, WILKES-BARRE, PA.

READ JUNE 4, 1902.

The exact scope, as well as the limitations of the blood count as an aid to diagnosis and a guide to surgical operations, cannot be said to be definitely settled. On the one hand we have the broad claims and positive statements of Brown of Baltimore, and of Wilson of Philadelphia. As opposed to these observers, with their enthusiastic claims concerning the advantages to be gained by a blood count, we have the demurrer of Deaver and of Baldy. I have not had the pleasure of reading Dr. Deaver's original paper entitled, "The examination of the Blood in Relation to Surgery of Scientific, but often of no practical Value, and may Misguide the Surgeon." Dr. Baldy makes the title of Dr. Deaver's paper his (American Practitioner, March 12, 1902), and proceeds to convict the leucocytes of unreliability and want of attention to business. I think a careful consideration of the cases cited by Dr.Baldy will suggest in several instances a satisfactory explanation; especially when it is borne in mind that all that is claimed for leucocyte-count is that it is an aid to clinical study. In the second case cited by Dr. Baldy the complaint is made that the blood count corroborated the clinical diagnosis, and that both were wrong. And yet it does not occur to Dr. B. to attack the unreliability of clinical evidence. In my opinion enough has been proven by those who have made a careful study of the subject to render it the duty of every surgeon, having the opportunity, to make his own observations and faithfully report the result. In this manner so many cases will be reported that the true value of this procedure will finally be arrived at.

Dr. Brown, of Baltimore, says:

"Regarding the value of leucocyte counting in surgery, I

feel that the question is no longer *sub judice*. Keeping in mind the exact nature of leucocytosis and how it represents the conflict of two factors, virulence of infection and resistance of patient, we can derive an immense amount of knowledge from its study in surgical cases. If we have the clinical picture of a severe infection, peritonitis for instance, and the leucocytes are subnormal, operative procedures are practically useless, as the prognosis is almost surely fatal; in cases with a high or moderate leucocyte count the resistance of the patient is greater and the prognosis better. There is probably no disease of importance to surgeons in which leucocyte counting is of more value than in appendicitis, for the following reasons: (1) Its presence or absence tells whether we are dealing with an inflammation of the appendix, or with a case of hysteria, floating kidney with twisted ureter, gallstones or renal calculus, or the gastro-intestinal type of influenza, these conditions not being associated with a leucocytosis; (2) the grade of the leucocytosis tells us about the severity of the infection, a safe rule being, if the leucocytes are about 18,000 or 20,000, operate immediately, if below, wait and watch leucocyte count and symptoms with great care to see if the process is diminishing or progressing; (3) a systematic counting will show whether the condition is becoming better or worse, and will furnish the safest of all criterions as to beginning perforation and general peritonitis, with necessity for immediate operation; (4) it may be our only means of diagnosis in a fulminating case, especially in children, in whom pain, nausea and muscle spasm may be practically absent, due either to the appendix becoming gangrenous almost immediately, or to its being situated deep down in the pelvis. In connection with the value of leucocyte counting in appendicitis, let me briefly quote two cases:

CASE I.—A patient in whom immediate operation was undesirable on account of his poor general condition; the leucocytes, counted every four hours, varied between 15,000 and 20,000 for 24 hours, when they rose suddenly to 32,000; operation was immediately performed, and a beginning perforation found in the appendix.

CASE II.—A young boy who, the morning after a summer-time dissipation of strawberries, ice cream and soda water. had an attack of nausea with slight epigastric pain, but no rise of pulse or temperature, and no local swelling or tenderness. The nausea rapidly yielded to small doses of bismuth, but as the pulse rose from about 80 to 95, and the child looked sick, a leucocyte-count was made, and 17,000 leucocytes per cmm. found. Appendicitis was considered probable, although the temperature did not begin to rise until the second morning. At 2 o'clock p. m. it had reached 100 deg. The leucocytes, which had remained about 17,000, suddenly jumped to 34,000. An operation was immediately performed, and an enormously long, completely gangrenous appendix, seated almost entirely in the pelvis, with a fresh perforation about its middle, and a beginning peritonitis were found. Both patients recovered.

I know that these are rather rare cases, yet they are liable to be encountered by any physician, and they exemplify the immense aid blood examination may be. In case II it undoubtedly saved the patient's life. No less important is leucocyte-counting after operation; many cases present all the symptoms of a general peritonitis, nausea, vomiting, constipation and tympanitis, distended abdomen, in which the determination of the exact condition is a matter of immense importance. Peritonitis is associated almost invariably, and in all cases in which operative procedures offer any hope of success, with a leucocytosis, and as an autointoxication from the gastro-intestinal tract shows no, or very slight increase, we at once see what a valuable aid the leucocyte-count is. The first condition is to be treated by operation and drainage, the second by purgation, and the life of the patient depends upon our correct interpretation of the clinical picture presented. We have seen several cases within the past few months in which leucocyte-determination alone prevented the surgeon from operating secondarily, and the subsequent course of the case showed that the condition was one of autointoxication. Thus we cannot agree with Hubbard, Deaver and others who assign but little practical value to the leucocyte-counting in surgery. We feel that some of them at least have missed the vital point from their

blood examinations when they reach this conclusion. It is not the establishment of fixed rules, between the grade of leucocytosis and the especial pathologic condition, as they attempted and naturally failed to do, that is of great importance, but it is the results obtained by frequently counting the leucocytes in the individual case, which is of inestimable value in showing whether the condition is lessening or progressing."

Perhaps the mistake has been made by our brilliant but controversial Philadelphia friends of mistaking the real claims made by the advocates of the blood count. As suggested by Dr. Brown, blood examination "is not a bridge, but a staff—a staff becoming more valuable every day to guide us over the gulf that divides the clinical picture on one side from correct diagnosis and rational treatment on the other." This much we may all agree to: Leucocytosis represents the conflict of opposing forces. On the one hand we have the evidence of infection; on the other, the strength of resistance. As we watch these opposing forces as they advance and recede, the one now becoming dominant, and then the other, we see pictured in our own organisms the mighty struggles of contending armies. And as many a historic and epoch-making battle has been decided by the most trivial and unexpected incident, so, I have no doubt, the forces of infection and resistance are often so evenly balanced, that the most trivial circumstance—the word of hope and cheer on the one hand or discouragement or sudden fear on the other—may determine whether victory or defeat, recovery or death, shall be the final outcome of the struggle.

If the frequent record of the blood-count can throw so much light on the question of infection and resistance as claimed by Drs. Brown and Wilson, it is of the utmost importance to the surgeon, both as a guide to prognosis and treatment, that the count be frequently made.

Since writing the above I have read an abstract of the paper published by Dr. John DaCosta, Jr., in the *American Journal of Medical Sciences,* November, 1901, on the above subject. This study covers 118 cases of appendicitis operated on in the German Hospital, by Dr. Deaver. Dr. DaCosta's paper is a most

careful and exhaustive review of the subject, and one cannot read it without being impressed with the value of the blood count in the diagnosis of this disease. His paper clearly shows that the range of the leucocytes, if correlated with other clinical symptoms, serve as a diagnostic sign of definite value. He makes an earnest appeal for more frequent examinations of blood; not only because it points out the co-existent anaemia present in some cases, but because it enables us to differentiate with certainty a purulent from a non-purulent appendicitis in a fairly large percentage of cases.

According to Dr. DaCosta counts of 20,000 or more are almost always indicative of the presence of pus, gangrene, or peritonitis, one or all. It is here that it becomes of value in cases such as No. 2, reported below.

CASE I.—Mrs. B., aged 40; admitted to Wilkes-Barre City Hospital December 3, 1901. Diagnosis: obstruction of the bowels. Family history: father and mother living and well; one brother living and well; one sister died at confinement; has six children living and well; husband and one child dead.

Previous history: Has always been a healthy woman and worked hard. Had typhoid fever when 16. Menstruation always regular, non-painful. Youngest child is three years old. Has always been troubled with constipation and gaseous distension. Patient says her womb presses on her lower bowel.

History of present disease: Began four weeks ago with obstinate constipation, distension and abdominal pain. Patient was up and around for two weeks and then went to bed. Has had nausea and vomiting for the last two weeks. Bowels have moved only by injection. Has had three injections of warm water daily for five days without a movement. Abdominal pain has been very severe for the last four days, more so on the right side. Has been much distended but has been able to pass gas through the bowels. Has been unable to hold anything on her stomach for several daye. Vomits a very bitter material. Says she is thirsty all the time, but has not passed as much water as usual. Has had no chills or fever.

Vaginal Examination.—Large, hard mass about size of cocoanut; seems to be attached to right of uterus, involving tube

and ovary; uterus retroflexed and bound down by adhesions; size of uterus undetermined. Patient refused operation. Blood count, normal.

The history of the case subsequent to admission shows that frequent high enemata, some containing quinine, others hot glycerine, turpentine and soap suds, magnesia sulphate, etc., were given. These were persevered in until twelve in all had been administered and on the fourth day, after admission, a free movement of the bowels was secured. The constipation existed for eight days before an evacuation was secured. All the time she had much pain and frequently vomited. The temperature ranged between 96.8 F. and 101.6 F., it being 99.6 F. on admission. On the third day after admission it reached 101 F. and continued to touch this point until the 8th day, when it reached 101.6 F., and then gradually fell to nearly normal. The patient was discharged on December 20th, 17 days after admission. At the time of her discharge there remained a hard mass in the right iliac fossa, dipping down into the pelvis. The nature of the mass, and the cause of obstruction remain involved in doubt, as the patient refused an operation. I have learned that she has improved in health, and has had no further indications of obstruction.

CASE II.—Mrs. S., married, age 35; occupation, housewife. Family history: Father is living and well; mother died at 74 years of age of heart disease; three brothers living and well.

Previous history: During childhood had measles, chickenpox and whooping cough. Menstrual history negative until the past two months when the flow was delayed but very profuse and somewhat painful. Patient has three children living and well; had one miscarriage. Ten weeks ago patient was operated on in this Hospital for lacerated perinaeum and cervix.

Patient says she had muscular rheumatism in her arms about two weeks ago.

History of present disease: Present illness began last Thursday evening (January 23d, 1902), with a severe cramp-like pain in the epigastrium, vomiting, anorexia, and absolute

constipation. On Sunday evening, January 26, the epigastric pain subsided a little but was followed by shifting pains throughout the whole abdomen, and accompanied by gurgling noises. Also at this time patient began to vomit large quantities of dark brown, malodorous liquid, which has continued until the present time. On admission patient was emaciated and weak; tongue coated. There has been absolute constipation since the onset of her trouble, last Thursday; stercoraceous vomiting; abdomen tympanitic; colicky pains throughout the abdomen, also much gurgling.

Blood count.

R. B. C.—5,050,000.

W. B. C.—25,000.

Hemoglobin.—90 per cent.

The vomiting occurred at intervals ranging from 12 to 18 hours, during the two days intervening between admission and operation. On the morning of January 31st, 1902, I found the patient fairly comfortable. The temperature was 98 F., pulse 90 and respirations 20. At 5 p. m., January 30th, she vomited fully a quart of a golden brown substance containing fecal matter. This is the record of the history sheet. The vomited matter was kept by the nurse, and it was unmistakably fecal matter. This being the case, and the blood count showing a leucocytosis amounting to 25,000 to the cmm., and the hemoglobin being 90 per cent., thus showing the patient was in a good condition for operation, I proceeded to perform a laparotomy. The point of constriction, which was easily found, was in the ileum, a short distance from the coecum Here an inflammatory band completely encircled the intestine, and so strangulated it that in a short time the gut would have suffered amputation. The constricting bands were easily broken up, when the collapsed portion of the intestine expanded. A careful study was made of the portion which had suffered constriction, and upon the application of a hot towel it regained its circulation in a manner to satisfy me that it was safe to return it. The abdominal cavity was filled with hot salt solution, and the abdomen closed. The recovery of the patient was uneventful. She never vomited after the opera-

tion, and as the chart and history sheet show, her condition was in every way satisfactory. The stitches were removed on February 13th, when union was found to be strong. She was discharged on February 25th, in good health.

The quotations above made on the literature of the blood-count relate almost entirely to suppuration. Dr. Chas. H. Miner, my associate, had called my attention to a journal article in which the writer claimed that a high degree of leucocytosis is an unerring indication for operation in obstruction of the bowels. The history of the above cases seem to bear out the above claim. It is easy to understand, of course, why a high blood-count would be associated with constriction of the bowel with impending gangrene. We have here a local infection on the one hand, and on the other the resisting force of the system—hence a leucocytosis.

REPORT OF CASES.

BY DR. W. F. BENNETT,
RESIDENT PHYSICIAN OF WILKES-BARRE CITY HOSPITAL.
READ JUNE 4, 1902.

It gives me great pleasure to report these two cases in which the tuberculin test was used and the reaction obtained. Reported through kindness of Dr. Long.

CASE I.

Name, W. K., male, aged 40, married, laborer.

Family History—Negative.

Previous Personal History—Negative

History of Present Illness—Patient was admitted to Hospital May 15, 1902. Illness began three or four weeks before patient's admission to Hospital. The first symptom noticed was a chill, which was followed by fever and sweats, headache and vertigo. Soon after this the patient's abdomen, legs and feet began to swell. The swelling in abdomen increased rapidly until abdomen became very much distended, was tender and painful on palpation. Dysponea was present which was markedly increas-

ed on slightest exertion. No cough, no expectoration, no night sweats, no pain except in abdomen and this was present only at intervals of two or three days. Loss of appetite, constipation.

On admission, patient very pale and anemic. Very much emaciated. Had lost flesh and strength. Temperature 97.8; pulse 96; respiration 26; abdomen very much enlarged; anorexia, constipation, slight pain present in abdomen, no swelling in legs or feet.

Inspection—Abdomen distended, the surface is smooth. When patient lies in dorsal position, the flanks bulge.

Palpation—Abdomen is rigid and tender, more or less resistance is found in the flanks.

Percussion—In dorsal position, dullness is found in flanks, and anteriorly to within one inch of umbilicus. Above umbilicus, there is tympany.

Examination of Urine—Negative.

Examination of Lungs—Negative.

Examination of Liver—Negative.

Examination of Heart—Negative; although sounds are rather weak, no organic lesion is detected.

The temperature of the patient for ten days varied between 97.8 to 101.6 degrees; pulse 72 to 104; respirations 20 to 40. Temperature being down in forenoon and up in afternoon.

The diagnosis was made as tubercular ascites and peritonitis. It was then decided to give the patient an injection of tuberculin to verify the diagnosis. Fifteen minims of the tuberculin was injected with an ordinary hypodermic syringe, going through the usual antiseptic precautions. The injections being made between the two scapulae. This was done on May 24th, 1902, at 2 p. m.; at this time the temperature of the patient was:

2 p. m. temperature 100.4, pulse 80, respiration 40.
3 p. m. temperature 100.6, pulse 80, respiration 28.
4 p. m. temperature 100.6, pulse 80, respiration 36.
5 p. m. temperature 100.4, pulse 86, respiration 24.
6 p. m. temperature 101.8, pulse 88, respiration 24.
7 p. m. temperature 103, pulse 84, respiration 28.
8 p. m. temperature 105.6, pulse 140, respiration 36.
9 p. m. temperature 105.2, pulse 112, respiration 40.
11 p. m. temperature 100.2, pulse 116, respiration 48.

After 11 p. m. temperature gradually diminished until May 26, two days later, when it reached normal. Since then it has varied between 97 degrees and 99 degrees F.

Pain was present in abdomen almost continually after the injection. Patient complained of being chilly, was very much depressed and nauseated. Patient vomited twice, a small amount of olive green fluid. Did not eat much for two days.

Patient was operated on May 31, 1902. A median incision was made about three inches long below umbilicus. Upon opening the peritoneum there was an escape of a straw or yellowish colored fluid, amounting in all probably to three or four quarts. The peritoneum was thickened and studded with masses of tubercle tissue, in the form of miliary nodules, varying from size of a pin head to a pea. These were also present on the intestines. The nodules were white and cheesy in appearance. The fluid was encapsulated, as different portions of the intestines were adherent among and to the surrounding structures, as the peritoneum, etc. The omentum could not be found as it had probably contracted and was above the adhesions. There were a few particles of coagulated matter in the fluid. These were probably formed by coagulation of some of the fluid contained in the cavity, as the coagulate formed on boiling the fluid was precisely the same as that which escaped. Fluid became partially coagulated on standing.

Examination of the fluid.

Sp. gravity—1020. Reaction—Alkaline.

Albumin—Solid bulk.

Sugar—Negative.

Bacillus Tuberculosis—Negative.

Microscopic—Leucocytes, red blood cells.

Case II.

Name—J. J., male, aged 28 years, married, miner.

Family History—Negative, except that patient had one child die of a wasting disease.

Previous Personal History—About 10 years ago patient had typhoid fever. He recovered his health again and was well for five weeks, when he was again taken ill with pneumonia.

Has been subject to attacks of palpitation since his illness ten years ago. Venereal attacks—Negative.

History of Present Illness —Admitted May 7, 1902. Present illness began about four weeks before admission to Hospital with a feeling of malaise. When returning from work in the evening, he would have attacks of chills, sometimes these were followed by fever and sweats. There was a gradual loss of flesh and strength. Patient soon became too weak to work. Headache was present at times, and vertigo when patient was standing. Appetite was good, but after eating, patient complained of fullness and distress in abdomen. He was not confined to bed until two days before admittance. Had a swelling on right side of neck over sterno-mastoid muscle. This swelling, as described by patient, was hot, painful and tender. Bowels constipated. Pain was present only over swelling on right side of neck and in supra-orbital regions. Had a slight attack of epistaxis. Palpitation at times, no cough, no expectoration, no night sweats.

On admission, pale and anemic, emaciated. Patient complained only of this gradual loss of flesh and strength. No cough, no expectoration, appetite good, tongue slightly coated, constipation.

Temperature 101.2, pulse 116, respiration 32.

Examination of Urine—Negative.

Examination of Sputum—Negative.

Examination of Blood—Hemoglobin 85 per cent., R. B. C. 4,281,000. W. B. C. 8,820.

About two days after admission a swelling appeared under the chin. This swelling was about the size of a hickory nut, was hot, painful and tender. The pain and tenderness gradually diminished, but the gland did not decrease in size. About one week later both sub-maxillary glands became involved. They both became enlarged to about the size of a hickory nut, and were in the same condition as the one under the chin—were hot, painful and tender. The pain and tenderness also left these glands in about three days, but swelling remained.

Examination of heart—Negative, except was somewhat irregular at times.

Examination of liver—Negative.

Examination of lungs—No dullness but a slight grating sound was heard on auscultation at left apex.

Diagnosis was made as Tuberculosis of the glands. It was decided to give an injection of Tuberculin, as one of the means of verifying the diagnosis.

The patient's temperature up to this time varied between 103.2 and 99.2 degrees F. being above 100 degrees F. most of the time. It being elevated in the evening and low in the morning.

Fifteen minims was injected the same as in first case, on May 24, at 2 p. m.

2 p. m. temperature 102 degrees F., pulse 96, respiration 20.

3 p. m. temperature 102, pulse 80, respiration 24.

4 p. m. temperature 102, pulse 84, respiration 24.

5 p. m. temperature 102, pulse 80, respiration 24.

6 p. m. temperature 102.6, pulse 88, respiration 24.

7 p. m. temperature 102, pulse 84, respiration 24.

8 p. m. temperature 104.6, pulse 128, respiration 32.

9 p. m. temperature 106, pulse —, respiration 32.

11 p. m. temperature 102.8, pulse 100, respiration 32.

At midnight, May 25, 1902, temperature 99.4, pulse, 76, respiration 24.

Since then it has varied between temperature 99.2—72—24 and 101.6 degrees F. It only going above 101 degrees F. once, then it was 101.6 degrees F.

During the reaction patient complained of being chilly, nervous and nauseated, did not vomit. The effects of the Tuberculin lasted about 48 hours.

The sub-maxillary glands decreased in size from a hickory nut to the size of a marble. Patient was feeling much better after injection of Tuberculin than before. In this patient there was soreness and redness at the point of injection, but this disappeared in two days.

THROMBOSIS AND EMBOLISM.

BY S. P. MENGEL, PARSONS, PA.

READ JUNE 18, 1902.

Mr. Chairman, Fellow Members of the Luzerne County Medical Society.

Thrombosis and Embolism have been to me subjects of more than ordinary interest, and while it is not the object of this paper to present anything new or original on the subjects nor advance to new method of treatment for same (for, indeed, many of the cases are not amenable to treatment), I beg to call your attention to a brief consideration of the pathological conditions involved and cite a few cases which have come under my observation with the hope that it may prove to you at least of interest, if not profit.

A thrombus is the formation of a clot of blood in a blood vessel or the heart during life. An embolus, meaning plug, is a foreign body, of various kinds, carried in the blood and forced into a smaller vessel, through whose lumen it is not permitted to pass.

Alterations in the blood current, changes in the vessel-walls and an alteration in the quality of the blood are the three etiological factors favorable to Thrombosis. Two of the three conditions being usually present to cause the formation of the clot in the vessel.

Virchow thought the cause of coagulation of the blood in the vessels to be a mere slowing of the blood current but it has since been demonstrated that a blood vessel, providing it be kept aseptic and uninjured, may be ligated at two points, the blood between the two ligatures remaining stagnant, with no formation of a clot or thrombus. Any condition which slows the current, such as a weakened or diseased heart, narrowing of the blood vessel or pressure upon the same, favors thrombosis, but some change in the vessel wall is generally necessary in addition.

Changes in the vessel walls is an important cause of thrombosis. The integrity of the tunica-intima may be altered by

traumatism, by infective inflammation, pressure, parasites, diseases of the coats of the vessel and by foreign bodies, accidental, as calcareous deposits and clots of foreign bodies purposely introduced, as metallic wire, loose hair and drugs. Dilatation of an artery (aneurysm) of a vein (phlebectasia) or of the cavities of the heart act chiefly by slowing the blood current or by causing irregular currents.

Schmidt believes the coagulation of the blood is due to the reaction of fibrinogen with fibrineoplastine under the influence of a fibrin ferment. It is the fibrin ferment which constitutes the essential factor in coagulation, and it is quite probable that the tendecy to thrombosis in typhoid fever, speticaemia, rheumatism, gout and syphilis is due to the increase of these fibrin ferments in the blood.

According to the manner of formation, we have red and white thrombi. When they are formed quickly by an almost complete stoppage of the blood current, we have soft, dark red thrombi.

In the normal blood current we have the red blood corpuscles and blood plaques circulating in the center of the stream separated from the sides of the vessel by a zone of plasma in which float the white blood corpuscles or leucocytes. If now there is a slowing of the blood current and any roughness or injury of the vessel wall exists, the blood plaques leave the center of the stream, wander to the vessel wall and have a tendency to adhere to themselves and the point of injury. This is known as conglutination of the blood plaques. Subsequently the leucocytes are also arrested and become attached, thus adding to the size of the mass. We have the conglutination of the blood plaques plus leucocytes and fibrin or a *white thrombus.*

A primary thrombus is the one first formed. A secondary thrombus is an addition formed to the primary thrombus. When the clot is attached to the side of a vessel and incompletely obstructs the circulation, it is termed a lateral thrombus; when it completely obliterates the lumen of the blood vessel in which it is formed, it constitutes an obstructing thrombus. Small thrombi are frequently found formed in the

valvular pouches in the veins. These often undergo calcification and are then known as phleboliths. In the heart thrombi are especially common, forming on diseased valves, in the auricles and in the intertrabecular spaces. They frequently attain a large size here and often are attached only by slender pedicles. Rounded clots are often found in the auricles of the heart. They are wholly or almost wholly separated from the heart wall and may occasion complete obstruction of the heart orfices. They are known as ball thrombi.

Often when a thrombus forms the collateral circulation is so quickly and thoroughly established that no untoward results occur. Venous congestion and dropsy follow the occlusion of a large vein, and local anaemia, if the colatteral circulation be not formed, that of an artery. If the thrombus occurs in a small artery, hemorrhagic infarction ensues. A thrombus once formed in a vessel undergoes several changes. There is always a certain amount of contraction following its formation, after which degenerative changes or organization may occur. In organization new connective tissue cells form from the lining membrane of the blood vessel and also from the endothetial cells covering the thrombus. These connecting tissue cells proliferate forming bands of connective tissue, which penetrate the thrombus and gradually form a cicitricial tissue. Portions of this clot often become disintegrated or absorbed, leaving spaces in the mass through which the circulation is often partially or wholly reestablished. When these spaces are formed the thrombus is said to be canalized. Again one of the newly-formed blood vessels running parallel with the obstructed vessel becomes dilated and thus partially reestablishes the circulation. This is also termed canalization. The obstructed vessel may be converted into a solid fibrous cord or it may be narrowed and distorted by bands of connective tissue.

In other cases organization does not take place and we have one of the degenerations follow. The most favorable termination of a thrombus in this way is by calcareous degeneration, occurring most frequently in the veins, forming, as has been stated, phleboliths; in arteries arterioliths, and in the heart cardioliths—the two latter, however, being of rare occurrence.

More commonly we have in the blood plaques, leucocytes and fibrin undergo a liquefaction necrosis, or fatty degeneration, forming a slimy fluid in the inner layers of the thrombus. This fluid may be infected or sterile. If sterile we have formed cyst-like formations. If infectuous, as is frequently the case, there is a true puriform softening or suppuration of the thrombus. With this degeneration, in which the vessel walls frequently suffer, the thrombus is broken up into masses, containing large numbers of bacteria. These are swept off into the circulation causing general pyaemia and embolism.

Thrombi may be formed in veins, the heart or in arteries, while emboli are formed only in the arteries, with the exception of those sometimes found in the veins of the liver. This latter condition being caused by an increase of the intra-thoracic pressure, as in whooping cough, in which instance emboli in the inferior vena-cava may be carried in the direction opposite the blood current (Retrograde Embolism) and conveyed into the liver through the lepatic veins.

An embolus is formed from portions of a softened thrombus, atheromatous patches, parts of diseased heart-valves being swept into the circulation and lodged in smaller vessels, placental cells, parts of tumors, pigment-particles from disorganized blood, as in malaria; small hyaline masses caused by burns and some forms of poisoning; fat entering the circulation as from bone-marrow after a fracture; air, bacteria and parasites may enter into the circulation and cause emboli.

When an embolus is lodged in an artery the part supplied by the occluded vessel becomes anaemic, or if the vessel be large and the collateral circulation be not established, gangrene results. If the embolus occludes the pulmonary artery, one of its main branches or the middle cerebral, instant death is likely to follow. We believe that many of the sudden deaths, usually attributed to some form of heart trouble, are in reality caused by large emboli being swept into one of these vessels.

The signs and symptoms of thrombosis and embolism are so varied, on account of the numerous parts that may be involved, that their consideration is beyond the scope of this

paper; we shall therefore conclude with a brief consideration of the treatment of these conditions.

In the treatment of thrombosis complete rest must be rigidly insisted upon. Too much stress cannot be laid on this measure. Massage, so often practiced for indurations and swellings, regardless of their true cause and nature, cannot be too strongly condemned. By its use emboli are often swept into the circulation, causing softening, gangrene or death, according to the vessel occluded or the part involved. Venous circulation should be favored by the proper position, and depletion and blisters should be strongly interdicted. What has been said of the treatment of thrombosis applies also to the treatment of embolism. If the embolus be in one of the extremities, the part should be elevated and artificial heat applied. Opium in some form is usually required to relieve the pain. A good nutritious diet, with free administration of stimulants, is usually indicated. If gangrene forms apply antiseptic poultices until the formation of the line of demarcation, when amputation should be performed.

CASE I. Mr. P. C., aged about 50 years, of Plains, Pa., was an inveterate drinker. He had been a heavy user of alcohol the greater part of his life but had always enjoyed good health. On December 26, 1899, after an evening's debauch with two other brothers who lived in the same house, he retired about 10 or 10.30 p. m. The following morning he was found in bed a corpse. On account of his sudden death, his previous good health, the knowledge of the drinking the night previous, together with a contused wound over one of his eyes, naturally foul play was suspected and I was summoned by the coroner to perform an autopsy.

The pathological condition of the internal organs, liver, heart, kidneys and blood vessels corroborated the history of his inebriety. On the removal of the heart an enormous white embolus, nearly one inch in length and slightly over five-eighths of an inch in diameter was found plugging the pulmonary artery. The mass was composed of tough connective tissue, almost the consistency of gristle and had been swept

there from its previous attachment to the walls of the right ventricle of the heart, causing instant death.

CASE II. Mrs. O. M., aged 24 years, married, gave birth to a dead foetus about the sixth month of pregnancy, December 23d, 1901. The foetus had been dead for a period of several weeks, and when I was called she was already suffering from septicaemia. The usual treatment was at once instituted but without effect; she gradually grew worse, suffering the usual symptoms of septicaemia so familiar to all. On January 23, 1902, exactly one month from the time I first saw her, there developed a complete right-sided hemiplegia with aphasia. This condition lasted until January 27, when the patient died from exhaustion. The age of the patient, absence of any heart lesion or atheroma, no marked change in her pulse or temperature, no flushing or congestion of the face, the fact that the hemiplegia was right-sided, together with the existence of a thrombus in right long saphenous vein (in thigh), lead us to conclude that this was a case of cerebral embolism.

CASE III. Mrs. M. J., aged 35, in good health, was confined on the morning of March 23, 1902. Labor was normal. At 2 a. m., March 24, 1902, less than twenty hours after the birth of her child, I was hastily called to see her and was informed she was unable to talk—not having spoken for several hours. On attempting to speak she would make a peculiar husky noise but was unable to say a single word although she was perfectly conscious of her surroundings and understood what was said to her. There was no paralysis, no loss or impairment of sensation of any part, but there existed a slight inequality of the pupils. Knowing the patient to be of a nervous temperament, a diagnosis of hysterical aphasia was made. The following day there was slight impairment of motion and sensation of right side with no improvement in speech. Temperature, pulse and respiration were normal. No albumen in urine. Inequality of the pupils was now well marked. I now felt positive the case was more serious than I thought it to be the morning previous and I was obliged to change my diagnosis as well as the prognosis I had given the family.

Five weeks elapsed before this patient spoke her first word. After this she gradually learned to talk, as it were. Having a knowledge of two languages, she could often think of a word in one and not in the other, consequently what she did say was quite badly mixed. Nearly three months have now elapsed since the beginning of the trouble and the patient speaks by no means plainly nor has she regained more than one-fifth or one-sixth of her former vocabulary. This is a case of cerebral embolism in which the embolus was probably caused by placental cells being swept into the circulation.

ULCERATIVE ENDOCARDITIS.

REPORT OF A CASE.

BY DR. D. H. LAKE, KINGSTON, PA.

JUNE 18, 1902.

Mr. President and Members of the Luzerne County Medical Society.

I take it as granted that one of the emoluments attached to the office of a member of your Executive Committee is the frequent opportunity he may have of preparing a paper, with little or less notice, or to receive through the medium of the telephone a request to report a case after the Secretary's postal notice has been printed and upon which the member's name and obligation appears. This is due, of course, to the fact that some one else is too busy or possessed of enough ennui to be indisposed, and thus disappoints our worried Secretary, who, in turn, disturbs us.

On August 1st, 1901, I was confronted with a case of Endocarditis. I have with me the temperature chart as kept by the nurses. The tendency towards procrastination at this time of the year is so great that since Saturday, I have been robbed of the time actually necessary for the completion of an acceptable report.

A. B., aged 37 years, six feet in height and weighing 225 pounds, the possessor of a physique which attracted attention, and who, to the casual observer, was the embodiment of physical strength and development, was my patient. At noon of August 1st he was taken with a chill of a half hour's duration. I saw him at 2.30 when his temperature registered 101 deg. F. There was no history of a previous chill for more than a year, though the patient had not enjoyed his usual health for two months, yet every day attending to his duties. The pulmonary area was normal but his heart's action was tumultuous and at times intermittent. A systolic murmer was heard very distinctly. The following day he was quieter but complained of tenderness in the right iliac region. This tenderness was increased upon pressure. At 11 a. m. his temperature was 99 F., his pulse 84.

August 3d. Another chill, not lasting as long as the first, occurred at 8 a. m. I examined his stool and found it typically typhoidal in character. Tenderness upon pressure was still present in the right iliac region. There was some distress over his heart and the murmur was even more distinct than on the previous day. The impulse was abnormally strong and diffuse, the pulse accelerated and slightly irregular. He passed a fairly good night, though at times experiencing some distress in breathing. His bowels moved twice during the night of the 3d, the stools being thin and yellowish. His tongue was dry and furred. I failed to find any eruption.

August 4, 1901. At 10 a. m. the temperature was 101, pulse 96, respirations 24. In addition to the employment of nurses I suggested that a consultation be held. In the evening Dr. Guthrie met me. Eliminating malaria, which in its remittent form resembles strongly some of the manifestations of Acute Ulcerative Endocarditis, we concluded, inasmuch as there was no previous history of any cardiac disturbance, that my diagnosis was correct. Though some symptoms were absent, we were inclined to think that typhoid fever was causative of the Endocardiac difficulty. At the time of our visit the temperature registered 103 deg., the pulse 102 and the respirations 26. From this day until the 9th the morning tem-

perature ranged between 99 and 100, while the evening exacerbation did not exceed 101.5, except at 9 p. m. on the 6th when it reached 102.5 F. No chills had occurred since the 3d of August but pre-cardiac pain and dysponea were ever present.

On the 11th of August Dr. Stewart saw the patient, as he did several times thereafter. The blood was examined, Widal's reaction giving negative results; the frequent examination of the urine had always given negative results.

There had been a history of slight rheumatoid pains in the knees about two years ago but not at any time was the patient confined to his bed except when in November, 1899, these pains were a concomitant of la grippe. From the 12th to the 15th the elevation of temperature was so persistent that frequent bathing was necessary to keep the afternoon body-heat below 103 F., when, after a restless night, marked with active delirium, the thermometer at 4 a. m. and until 8 a. m. indicated 98 deg., the fever marking 101 by 9 o'clock and attaining its maximum at 5.20 p. m., when it registered 102.5. A subsidence of the fever (but no diminution of the pericardiac distress) marked the progress of the case from this until one o'clock a. m. of the 20th, when it reached 103.4, dropping the following morning to 97.6. The respirations were daily becoming more rapid.

Treatment.—To meet the pyaemic condition, quinine, the syrup of the iodide of iron, also sodium salicylate were given. For the dyspnoea and pre-cardiac pain, a blister was applied and when cough appeared on the 15th a mixture containing codeia was administered. Veratrum and aconite were used freely. The nervous system was partially controlled by trional and a combination of chloral with the bromides. Ice baths were used to reduce temperature and ice bags were applied over the heart. Serum therapy, which is even now but holding tentative ground, was not suggested.

Some general considerations.—We searched diligently to determine the point of origin of the infection. Eliminating penumonia and typhoid, as already mentioned, I looked for an abrasion of the skin, tonsillar involvement, ulcers of the mucous membrane, the history of gonorrhoea, but failed to elicit any

information bearing on the case. Was the attack of la grippe, 20 months previous, with its rheumatoid manifestations, causative? He made an excellent recovery, being confined to his bed only three days and to his home eight days. In cases of Endocarditis the heart lesion is discovered only by physical examination. In this case the chief subjective symptom was pre-cardiac distress and consequent dyspnoea, and drew attention at once. Death resulted on the morning of the 22d, the immediate cause of which was to be found in the systemic infection which likely resulted through infectious emboli, giving rise to abscesses in various organs—the lungs possibly in this case—for on the 18th, two days after the development of cough, I found an area of dullness in the lower lobe of the left lung posteriorly. A post-mortem examination might have been instructive but it was not permitted.

REPORT OF A CASE.

BY DR. C. P. STACKHOUSE, WILKES-BARRE, PA.

READ SEPTEMBER 3, 1902.

Mr. J. M. E.; white; age, 49; laborer; born in this country. Parents both lived to ripe old age and died of natural causes. Family history is entirely negative. He is married and has living four children. His habits are good.

He has always shown an unusual lack of resistance to disease. As a child he had everything in the line of disease calculated to make children happy, except measles—waiting for them until after he was married. At 28 he had typhoid fever and four years later a second attack which left him with a chronic diarrhoea. He had suffered much from rheumatism and for years has nursed a chronic backache. Two years ago he had a series of attacks of biliary colic lasting three months, several stones being found in the excreta. One he describes as resembling a buckwheat grain. A little over a year ago I treated him for nephritis and a valvular cardiac affection, with

arrythmia. The nephritic condition was entirely relieved but no permanent impression was made on the heart. At this time he complained of pain in sacrum extending out on both sides across the hips and especially along the crest of the right iliac bone.

On the 27th of last December I was hurridly summoned to his bedside and found him suffering with severe paroxysmal pain—greatest in epigastrium a trifle to right of median line—extending to the back and along the under margin of the liver. This pain continued until the following day and then left abruptly.

There was no fever, the pulse was slowed to 70 (78 being his normal pulse). Following the attack there was nausea and vomiting which was temporarily relieved by a preparation containing magnesia.

Marked jaundice appeared on the third day but lasted only a couple of days. As a result of the morphine given, the bowels became locked and a saline laxative was ordered.

On the 30th (3 days after onset of attack) there was great abdominal distress, chiefly in the right iliac region. The temperature went to 103 deg.; the pulse to 120. The face was pinched and anxious. The abdomen was distended, the right abdominal muscles rigid. There was tenderness on the slightest touch and great pain on moderately deep palpation.

In the iliac fossa, closely hugging the muscle, about two inches from the anterior superior spine and one inch above Poupart's ligament, was a hard mass about the thickness of a finger which could be followed for probably two inches into the iliac fossa.

The stools were imperfectly examined and several chalky concretions, resulting from the magnesia taken, were found but no gall stones were recovered. At the time I thought the attack caused mechanically by the chalky concretions.

With the flushing of the bowels the attack passed away, the temperature reaching normal on the 4th day.

On January 9, 1902 (11 days after the onset of attack just described) he began to complain of gluteal pain near the rectum. There was moderate fever and slightly accelerated pulse.

The part was red, swollen, and indurated, hot and tender to touch. Abortive measures proving futile on the 13th I opened an ischo rectal abscess and removed about two ounces of pus. No opening into the rectum could be found and for several days there was nothing pointing to any communication between the two. This, together with the fact that pressure over the mass in the right iliac region seemed to increase the flow of pus, and the large quantity of daily discharge led me to think the mass an appendiceal abcess which was being drained through the fistulous opening, but when, after several days, no change could be discovered in the size of the mass, that theory was abandoned.

Following the attack of biliary colic there was another class of symptoms referred to the region of the liver which, developing as they did, with the appendiceal symptoms, rendered certain diagnosis difficult. There was pain over the liver, referred to the back; shortness of breath; pain with each breath, which rendered deep inspiration impossible, sense of weight and oppression above right lobe of liver and tenderness *over* it. *There was no cough.* There was slight bulging of the right side and dullness, apparently movable, existed to the fifth interspace in front but slanted downward along side and back. The liver was displaced downward even to or below the costal margin. Exploratory puncture was negative. There has been some doubt in my mind as to the true condition but I believe it to have been a sero-fibrinous peri-hepatitis induced by the passing of the gall stone; the absence of cough, peculiar line of dullness, area of distress and downward displacement of liver separating it from pleurisy with effusion, and absence of septic symptoms not otherwise accounted for excluding subphrenic abscess. The effusion was gradually absorbed and by April 1 the liver dullness was apparently normal.

On the 29th of January occurred a second attack of appendicitis, following, as before, the administration of a saline. It presented the same symtoms as first attack and in addition there was some cerebral excitement and a semi-delirium lasting two days.

On February 3d he was seen, in consultation, by Dr. Guth-

rie. Operation was advised but refused at the time on account of the condition of the heart. The urine was frequently examined but no evidence of nephritis was found. After this there was gradual improvement in his general condition, appetite and strength returned and by April 1 he was able to be out. The mass appeared larger, however, and the pain and tenderness persisted in iliac fossa and in sacrum, also along under border of the liver. The persistence of the mass, its location and density led me to believe it an osteo-sarcoma, originating from the right iliac bone.

In April he consented to operation and on the 29th of that month was operated upon at the City Hospital, by Dr. Fell. The appendix showed previous involvment and was removed. The gall bladder was thickened but contained no stones. The right ilium was thickened almost throughout its extent, especially in sacral region and at the point where the mass was originally discovered. It was undoubtedly an osteo-sarcoma but it was not disturbed.

Following the operation he made an uneventful recovery. At present he complains of constant pain in the right mid-axillary line under costal margin, worse on deep inspiration; and along the sacrum and right ilium, worse on muscular movement. The mass has not increased materially in size and the tenderness in that region has almost entirely disappeared.

The conditions causing concern, occurring simultaneously or in rapid sequence, were:

1. Valvular heart disease with arrhythmia.
2. Biliary colic.
3. Appendicitis.
4. Effusion (either subphrenic or pleural.)
5. Ischio-rectal abscess.
6. Fistula in ano.
7. Second attack appendicitis.
8. Tumor—probably osteo-sarcoma.

SURGERY OF THE GALL BLADDER.

BY DR. F. P. LENAHAN, WILKES-BARRE, PA.

READ SEPTEMBER 3, 1902.

Mr. President and Members of Luzerne County Medical Society:

In taking up the subject of surgery of the gall bladder, it is my intention to confine myself entirely to the pathology, symtoms and surgical treatment of gall stones. It is but recently that surgeons have given any great amount of attention to the gall bladder and, consequently, it is only recently that the discovery has been made of the widespread prevalence of cholelithiasis. Dennis and Naunyn claim that gall stones are found in about 10 per cent. of all adult subjects. Paulsen, in nine thousand autopsies, found them in three hundred cases, or one in thirty.

The disease is more frequent in women than in men, the ratio being five to two. It is more common in advanced age, so that after sixty years, one person in six is affected. Many subjects carry gall stones all through life without the slightest inconvenience or indication of their presence. This is due to the fact that the symptoms do not arise so long as the stones lie quietly in the gall bladder. It is only when they attempt passage of the biliary ducts, that the symptoms appear. It is certain that we now recognize the presence of this disease in many cases in which, in former years, our diagnosis would have been dyspepsia, gastric catarrh, or some other form of stomach trouble. Sometime ago, a surgeon of wide experience made the assertion in one of our leading medical journals that 75 per cent. of all cases of so-called stomach trouble are really cases of cholelithiasis. While this assertion may be a little bit too broad, yet it is undoubtedly a fact that we often prescribe nitromuriatic acid and pepsin for cases in which the proper remedy is the surgeon's knife.

The importance of the recognition of the presence of

gall stones and their immediate removal is shown from the now admitted fact that a large proportion of the cases of cancer of the liver and biliary ducts results, primarily, from the presence of stones. Zenker found them in 85 per cent. of cases of cancer, upon which he had performed autopsies. In those cases in which they were not present, it is very possible that they were passed after the mischief had been done. Before entering into the symptoms, cause and treatment of this disease, I will give a brief description of the anatomy of the parts involved.

The gall bladder in health should contain one ounce. It lies on the under surface of the liver at about its middle, with its base forward and in contact with the cartilage of the ninth rib. It cannot be felt in health, even in thin persons, but when enlarged it can usually be easily located, either by percussion or palpation. The small intestines are shut off from the portion of the peritoneal cavity contained between the liver and the colon. The colon lies in contact with the abdominal wall and its mesentery forms a partition bounding a subhepatic space in which we find ourselves confined in operating on the gall bladder and biliary ducts. It is because of this anotomical arrangement, that operations in this region are so safely performed and that septic infection of the peritoneum so seldom occurs, the operation being practically extra-peritoneal.

The gall bladder ends at the cystic duct, which makes a sharp double flexion, enters the fold of gastro-hepatic omentum, joins the hepatic duct, becomes the common duct, which descends in front of the portal vein and behind the duodenum to its middle, where it joins the pancreatic duct and enters the intestines through a minute orifice called the papilla, which is about four and one-half inches from the pylorus. When the finger is passed over the mucous membrane within the bowel, this cord-like channel can be felt descending behind it, the opening being nearer the lesser curve of the duodenum. The lower part of the common duct can be reached in front by a vertical cut through the peritoneum covering the outer side of the duodenum, through which the finger can be passed behind the latter to raise it with the head of the pancreas from the posterior wall

and draw it toward the median line. The upper portion, where the cystic duct joins it, can be reached by incision and blunt dissection near the liver, pressing the first portion of the duodenum downward.

The gall bladder is four inches long and at its anterior end, one and one-half inches in diameter. The cystic duct is one inch long and the common duct three inches.

The passage of a probe from the gall bladder to the intestine in a normal duct is almost impossible, owing to the valve-like convolutions of the mucous membrane of the cystic duct. When pathological changes have occurred, however, the dilation is often great and in chronic cases of impaction of stone in the common duct, it is often possible to pass the finger through the dilated cystic duct upward into the liver or downward into the common duct. The cystic duct is the smallest part of the biliary channel. Hence, small stones that succeed in getting through this duct quickly pass through the common duct.

The hepatic duct begins with a branch from each lobe of the liver in the transverse fissure and is directed downward and to the right in the fold of the lesser omentum, the hepatic artery being to the left. It is about two inches long and unites with the cystic duct at an acute angle to form the common duct. The common duct lies in the lesser omentum, in front of the portal vein and to the right of the hepatic artery. It enters the intestinal wall very obliquely, running in the muscular layer for about three-quarters of an inch. The hepatic, cystic and common ducts all lie in front of and directly upon the great portal vein. Near its junction with the pancreatic duct, the common duct lies upon the vena cava, hence much caution is needed in seizing the walls of these ducts not to cut through them.

The gall bladder serves as a reservoir for bile. That its presence is really not a necessity is proven by the fact that some animals do not possess it and by the further fact, that its removal has no deleterious effect upon the health of a human being. There is indeed high authority for the assertion that the bile itself is not necessary for digestion or the maintenance

of health and that it is entirely excremetitious. This seems to be proven by the fact that patients discharging all their bile through a biliary fistula enjoy perfect health and are in no way troubled except by a slight flatulence, which is easily corrected by small doses of ox gall.

The theory of the formation of gall stones is that they are due to a crystallization of the excess of cholesterin and bile salts, this excess resulting from a stagnation of the bile and consequent absorbtion of its watery parts by the blood vessels in the walls of the gall bladder, assisted by a catarrhal condition of the mucous membrane. They vary in size from a grain of sand to a walnut and in number from one to several thousand. They may be so friable, as to be easily crushed between the fingers or so hard as to require a hammer to break them. The former are of recent formation and the latter of long standing and contain a certain amount of lime salts. Where a number exist, facets are found upon them where they come in contact with each other. As stated above, these stones may lie in the gall bladder and cause no disturbance or they may be so small, that the patient passes them without knowing it or they may be of such a size, that while the patient succeeds in passing them, it is only after suffering great agony. Then again their size may be such that they are passed with only a slight amount of distress, which the patient may attribute to indigestion. There are still other cases in which adhesion occurs between the biliary passages and a neighboring organ, such as the stomach, duodenum or colon, and by a process of ulceration the stone is discharged without any damage being done. Sometimes, however, ulceration occurs before adhesion is complete and the stone is discharged into the abdominal cavity with a fatal result.

The symptoms of the passage of a stone large enough to give trouble are usually characteristic. The patient suddenly developes agonizing pain beneath the ribs on the right side and shooting up through the shoulder blade. In addition to this, there may be nausea, vomiting, jaundice, fever, chills and sweats. The pain may be so severe that the patient becomes unconscious or developes convulsions. The attacks may last

from fifteen minutes to one or two days, the pain abating and recurring, the attack disappearing entirely when the stone has either been passed or worked its way back into the gall bladder, or the stone still remaining in the duct, the latter ceases to hold it in a spasmodic grasp, thus relieving the obstruction. In most cases, the tenderness is extremely marked in the hepatic region. There are also cases in which the jaundice, fever and chills are present with very little colic, although the tenderness over the gall bladder can usally be detected. The pain is not always located under the right ribs. It may occur at the epigastrium or at the umbilicus and there have been cases reported in which the pain was located at M'Burney's point, resulting in operations for appendicitis, the error not being discovered until the abdomen had been opened. I have personal knowledge of a case being operated upon by Dr. Howard Kelly for pus tube, in which he found the tube normal and the gall bladder full of stones, so that differential diagnosis in these cases is not always an easy matter. It may be confounded with pleurisy or cancer of the liver. The physical signs prevent the former error and as to the latter, Dennis says: "Too much emphasis cannot be placed upon the absence of acute colic at the outset of a slowly advancing jaundice, as indicating malignant or inflammatory obstruction." In addition, the enlarged liver and the family and personal history would aid in the diagnosis. A prominent surgeon has made the assertion that, given agonizing pain in the abdomen and one of these three conditions must exist: appendicitis, gall stones or obstruction of the bowels. It is my belief that this statement is pretty nearly correct.

As to treatment, it is my intention to confine myself to its surgical side, as I am convinced that medical treatment is a mere makeshift and especially when we consider the fact that the operation means so little danger to the patient.

There are several operations resorted to for removal of stones from the biliary passages. It is not my intention to take up your time with the details of these operations, as they can be obtained in any of the modern works on surgery. I will simply briefly refer to each operation and describe a few cases

upon which I have recently operated. Cholecystotomy consists in opening the gall bladder for the purpose of drainage or the removal of stones. There are some disputed points in connection with this operation, which it might be well to bring out for discussion. There are several methods of performing it, each of which has strong advocates. One method consists of first sewing the gall bladder to the pertitoneum and at a later period, when adhesions have occurred, resorting to a second operation for opening the organ and removing the stones. The claim made for this operation is that it is safer because it makes it is impossible for bile or, in cases of empyema of the gall bladder, for pus to enter the abdominal cavity. By the second method the abdomen and gall bladder are opened and stones removed at one operation. The latter method is the one now usually resorted to and I believe is the better of the two. It obviates the necessity of two operations and, if carefully performed, there is no danger whatever of infecting the general peritoneal cavity. As I showed above, the anatomical relations of the subhepatic space are such that the operation is for all practical purposes extra-peritoneal and with the proper arrangement of gauze packing about the gall bladder during the operation, he would be a clumsy surgeon indeed, whose operation happened to be followed by septic peritonitis. Some surgeons advocate what is technically calied "ideal cholecystotomy." In this, after removal of the stones, the gall bladder incision is closed by a double row of Lembert sutures and returned to the abdominal cavity, the wound in the abdominal wall being also closed with sutures. This operation, however, is dangerous because you can never be sure that all the stones have been removed, even though you have thoroughly explored the bladder and ducts with your finger before closing it up.

When marked atrophy of the bladder exists and the organ is greatly distorted, or when malignant disease is present, cholecystectomy or removal of the gall bladder is advocated. The advisability of this operation may be questioned, except in malignant disease, as it removes a channel by which the bile can reach the surface, if future trouble should occur. Some

surgeons remove the mucous membrane in all cases of gall stones.

When a stone is found in the common duct, it may be removed by coaxing it back into the gall bladder with the finger or by crushing it gently with the fingers or with a pair of forceps, protected by gauze, known as cholelithotrity, or by picking the stone to pieces through the duct with a needle or by opening the duct, known as choledochotomy. In obstruction of the common duct, it is sometimes necessary to perform the operation known as cholecystenterostomy. This consists of making a communication between the gall bladder and the duodenum or transverse colon by means of sutures, Murphy's button, or Senn's plates.

Gall stones have been known to cause obstruction of the bowels. Senn mentions a case, in which he removed a stone, the size of a walnut, from the small intestine. He also mentions several other cases in which the operation was performed by other surgeons. The theory is that these stones found their way from the gall bladder to the intestine by a process of ulceration or else that they were originally small stones that came through the common duct and afterwards increased in size by the addition of concretions from the intestine.

I stated above that the claim is made that gall stone is one of the causes, if not the cause, of cancer of the liver and gall passages. As an illustration of this fact, I might mention a case that was under my charge while on duty at the City Hospital last July. The case was that of an old lady, over seventy, suffering from cancer of the liver. A post-mortem examination was made by Dr. Weaver, Dr. Lazarus, the resident physician, and myself. We found the liver very much enlarged and containing a number of large cancerous nodules. Upon opening the gall bladder and common duct, we found a number of black and very hard gall stones. The latter were so hard that we concluded that they must have been present for a long time and it would appear that they may have been the cause of the cancer.

Of the operations which I have performed for gall stones, I will briefly refer to three, which were of especial interest to

me and one of which would serve to indicate that the so-called "ideal cholecystotomy" might prove to be dangerous.

Mrs. N., aged thirty-two, had suffered from periodical attacks of biliary colic for the past five years. Six months ago attacks became very frequent, occurring every three or four days, each attack lasting from two to six hours. During this latter period, jaundice developed and became quite marked, especially during attacks. Pain during attacks was sometimes so severe as to cause unconsciousness. Chills, fever and sweats were sometimes present. Examination revealed marked tenderness over the gall bladder and epigastrium, even during the intervals. No mass could be detected at any time beneath the right ribs. Patient lost thirty pounds in weight during four months and grew gradually weaker. In the intervals the patient ate and slept well and experienced no discomfort, except tenderness on pressure over the gall bladder and progressive weakness. The jaundice continued to increase with each attack and the urine was loaded with bile. At various times during the past four years, I endeavored to induce her to submit to operation. She refused to do so until last April when she entered Mercy Hospital, the operation being performed the day after admission. During all this time she was given the usual medical treatment from podophyllin to olive oil with no result. Upon opening the gall bladder, I found it to be entirely empty, containing neither stones, bile nor mucous. The fundus of the bladder was sacculated and almost entirely cut off from the rest of the organ by a stricture. It was so friable and diseased that before completing the operation I cut it off and removed it. As the bladder was entirely empty I concluded that there must be some obstruction of the cystic duct. I therefore carefully passed my finger along the cystic and common ducts but could not feel any stone, I then passed a grooved director down into the cystic duct and after probing for some time, there was a sudden gush of bile. I then searched again along the ducts and after working for about three-quarters of an hour finally felt a stone in the common duct. Very careful search revealed but one stone. I tried to coax the stone back into the gall bladder but was unsuc-

cessful, but I did succeed in breaking the stone between my fingers. As the patient was by this time in too weak a condition to go on and do a choledochotomy, I concluded to stop, hoping that the broken fragments would subsequently pass through the common duct into the duodenum, as subsequently happened. I therefore brought forward what remained of the gall bladder, sewed it to the peritoneum and closed up the abdominal wound, leaving the rubber drainage tube running down into the gall bladder. Bile discharged freely through the abdominal wound, requiring three or four changes of dressing daily for the first few days. I ordered all stools kept for inspection by myself. On the second day I gave a purgative. The bowels moved promptly and I strained the stool through some gauze but found no stone. On the third day, the patient had three bowel movements. I strained each of these and in the third stool, I found one of the fragments of the stone. This fragment appeared to be two-thirds of the stone and as it had no facets, and as I was unable to feel any other stone at the time of the operation, I concluded that the latter was a success. The wound closed up in about four weeks, during which time the jaundice entirely disappeared with no return of colic. The patient was eating well, feeling well and rapidly picking up strength and flesh. However, four or five days after the wound had closed the patient was taken with another attack of colic. I concluded to await events and discharged her from the hospital. The attacks of colic continued to return every couple of days for several weeks until finally she developed an attack in which she became unconscious and I thought she was about to die. The jaundice had also returned. Thinking that there might be a stricture of the common duct or that the other fragment of stone, which I failed to find in the stool, might be causing the trouble, I sent her back to the hospital and reopened the abdomen. The adhesions, as the result of the preceding operation, were very marked. The biliary passages and intestines were adherent, bound down and matted together. What was left of the gall bladder was so atrophied, that I could not get the probe into the cystic duct. After an hour's

hard work, I succeeded in breaking up the adhesions sufficiently to reach the common duct, where I located a stone about one inch nearer the duodenum than the preceding one had been. After considerable difficulty, I succeeded in bringing the duct near enough to the surface to reach it with the knife. I opened the common duct and removed the stone. I then passed a probe into the duct and found that both the hepatic and cystic ducts were free. The probe passed with difficulty through the common duct to the duodenum, as though there might be a stricture in that location. After passing a small drainage tube into the common duct and packing around it with gauze, I completed the operation. The prolonged operation left the patient terribly shocked and weak. She rallied, however, and did well until the fourth day when dysentery set in, the patient having frequent passages containing psuedo membrane, blood and mucous with marked tenesmus. Then she began to vomit, not even retaining water on her stomach. At one time, she passed a complete cast of the rectum. I succeeded in checking the dysentery completely within three days, but by that time the patient was so exhausted that she died on the ninth day after the operation. There had been no return of colic. The abdominal wound was doing nicely. There was only a slight elevation of temperature and at no time was there any tympanitis. The abdomen, in fact, remained scaphoid from the time of the second operation until the patient's death. There was not the slightest sign of peritonitis. The patient's death seemed to be due to exhaustion caused by the dysentery. It was, in all likelihood, biliary dysentery. The second stone was about the size of a large pea and had no facets. Drs. Dougherty and Wolfe were my assistants in the first operation, and Drs. Butler and Dougherty in the second operation. Now, the question is, was the second stone present in the common duct at the time of the first operation? I do not think it was, otherwise, we would have felt it, as our search was very thorough. My belief is that the second stone must have been high up in the hepatic duct, out of reach, at the time of the first operation. It was certainly not close to the first stone, as neither of them had facets. I feel satisfied that had the operation

been performed five or six months earlier, when the patient's general health was good, she would have made a satisfactory recovery.

The second case came under my care while on duty at the City Hospital last June. The case was sent in by Dr. Howell, with a history of attacks of colic, extending over a period of one year. During the two months preceding admission the attacks occurred several times a week. Examination revealed a mass about the size of an orange under the tenth costal cartilage on the right side, with considerable tenderness in this region. There was no jaundice nor was there a history of jaundice at any time. On June 27th, assisted by Dr. Fell, I removed 102 gall stones, varying in size from a pea to a small marble. Some of the stones were jammed down into the cystic duct and required considerable patience for their removal. The common duct was free. The gall bladder was fastened to the peritoneum and the wound partially closed in the usual way, rubber drainage tube being passed down to the cystic duct. The tube was removed on the tenth day and the abdominal wound granulated and closed up in four weeks. Several days after the operation, the patient experienced slight pain and another stone was found on the gauze at the next dressing. Two days after the wound had healed, the patient was discharged. The following day her husband telephoned me, stating that his wife had a severe attack of colic. I arrived at the house an hour later and found that the colic had disappeared. Upon removing the dressings I found that the wound had re-opened and was discharging bile. There was no stone to be found, however. I sent her back to the hospital thinking another stone was present. We kept the wound open with gauze for about ten days, but no stone appeared. The wound was then allowed to close and two days after it had healed the patient was again discharged—August 10th. Since then there has been no return of colic. I think the last attack was due to obstruction caused by an unremoved stone. This caused a damming back of the bile, forcing open the freshly healed cicatrix. The stone probably subsequently passed through the

common duct into the duodenum, which is the only way her present freedom from colic can be accounted for.

The third case, Mr. K., of Hazleton, aged sixty, entered Mercy Hospital last January, with a history of colic extending over a period of two years and occurring at intervals of three or four weeks. Upon examination, I found slight jaundice with tenderness over the gall bladder. A mass could be distinctly outlined. Assisted by Dr. Dougherty, I removed over two hundred stones, ranging in size from a grain of wheat to a large pea. Examination of the common and hepatic ducts showed them to be free from stone. This case was treated as the preceding one and made an uninterrupted recovery and was discharged cured four weeks after admission. There has been no return of colic, as I learned upon inquiry a few days ago. This case is chiefly interesting because of the large number of stones present.

The case of Mrs. S., demonstrates the danger of so-called "ideal chloecystotomy." In connection with this fact, I recall a case in which I assisted Dr. Dougherty to operate, where a severe attack of colic occurred a few days after the operation, the pain subsiding entirely with the appearance of a good sized stone in the abdominal wound, after which the patient made a good recovery.

I should have stated in the body of the paper that stones are sometimes found in the hepatic duct and even in the bile ducts in the substance of the liver. In the latter case, abscess of the liver is apt to develope.

REPORT OF A CASE.

BY DR. C. R. GROSSER, WILKES-BARRE, PA.

READ SEPTEMBER 17, 1902.

Mr. H. H., aged 20 years, was brought to the Mercy Hospital Saturday evening, September 6th, 1902, at 9:30 p. m. He was suffering from a pistol shot injury of the abdomen. He was taken to the operating room at 10.30 p. m. I saw the patient with Dr. W. J. Butler and we found a bullet wound of the abdomen about two inches above, and at an angle of about 45 deg. to the right of the umbilicus. As there were no signs of very great hemorrhage a careful dissection was made over the course of the bullet instead of the median line. After going through the several layers, including the muscles, we came upon the omentum which protruded through the bullet wound and lodged between the rectus muscle and its sheath. After going through the peritoneum and displacing the omentum upward, the intestines were thoroughly examined. The first part of the duodenum was uninjured, but the latter part and the jejunum contained in all, eight perforations. These were caught up and sutured and re-enforced by the utilization of the adjacent serous covering. The abdomen was flushed out with hot salt solution very frequently and the exposed intestines protected by pads dipped in hot saline solution. A search was made for the bullet but we did not succeed in finding it. After making diligent search for other perforations or wound of other viscera, and being sure there were none, all hemorrhage was checked and the abdomen was partly closed, leaving in a gauze drain.

After the patient was put to bed he vomited twice; later he was given gr. ¼ morph. hypod. Next day he received cracked ice sparingly and morphia P. R. N. Since the third day after the operation his nourishment consists of Pauopeptine $\overline{3}\ddot{ii}$ and champagne $\overline{3}\dot{iv}$. Predigested beef $\overline{3}\ddot{ii}$ to $\overline{3}\dot{iv}$. Since the fourth day after the operation his temperature, pulse and respiration remained practically normal, and he is entirely free from pain.

To-day completes the eleventh day since his operation was performed. He had one nutrient enema which was retained. Patient has absolutely no abdominal distention and rests well. Under these conditions we see no reason why he should not fully recover despite the high mortality of intra-peritoneal injuries.

TUMORS OF THE OMENTUM.

BY DR. A. G. FELL, WILKES-BARRE, PA.

READ OCTOBER 1, 1902.

I was led to take this subject in consequence of a case which occurred during my service at the City Hospital this Spring.

The literature on the subject is very scant and after looking over a considerable number of books I found but little.

As to the anatomical construction of the omentum, it is four folds of peritoneum, passing from the lower curvature of the stomach down over the small intestine, as an apron, and back to the transverse colon, between the layers of which are placed considerable adipose tissue, also with an abundant blood supply. Its function seems to be more of a protection to the intestines and a barrier to infection, as it throws its meshes around any inflamed portion; as a perforation, or over an inflamed appendix, seeking to limit the extent of the damage and assist nature in repairing any injury.

The diagnosis of a tumor in the omentum is rather uncertain. In health the omentum cannot be felt by any hand. Tumors of this part usually occupy the central position of the abdomen and in front of the small intestine. These tumors may vary in shape and size; may be flat and small or round and globular and large in size. The extent of flat growth may be so great as to cover the entire abdominal central front. They can usually be moved freely from side to side and upwards, but on account of the attachment of the omentum above; it is difficult to move these growths downward, their bordering on other regions makes it difficult at times to differentiate them from growths of other organs, separated from the liver by the large intestine and differentiated from the spleen by the absence of notch and shape. It follows the movements of respiration unless the tumor is attached well down.

The structure of the omentum is such that growths are rarely ever primary, but are usually secondary to growths or disease elsewhere located. Thus we may find growths of various kinds,

cysts, hydated cysts, coming from the liver or from the vessels carrying it through the blood channels, due to the rupture of a mother cyst.

Most of the other cysts are malignant in nature. Sanguineous tumors have been described but they are a variety of sarcoma. Lipoma is the most common as a primary growth, which usually develops in a pedunculated mass which can be detached. The other growth depends naturally on the source and nature of the primary growth.

From the intestines we may have the extension of the cancerous growth extending through the walls of the intestine, the omentum being agglutinated to the diseased area, there the diseased portion is usually local, or by the extension of the condition by means of metastasis, where we then find a general diseased condition of the entire omentum, being much thickened and studded with glistening masses—these are easily torn and apt to bleed. The thickening may be so extensive and the omentum so contracted as to form a roll across the abdomen. The appearance of this growth is such as might be mistaken for tuberculosis. The nature of growth might extend from other portions of the body by metastasis. Or the diseased condition might be removed from one organ to the omentum, as I believe was the case in the patient whose report I am about to give.

Mrs. E. R.; age, 20; married; occupation, housewife, and mother of two children, was admitted to the City Hospital May 14, 1902.

She had the following history: She did not have the usual diseases of childhood, her menstrual history was negative. Last menstrual period, May 1, 1902. Last child born August, 1901. Had miscarriage in October, 1901. No leucorrhoea. Four years ago patient discovered that she had a growth on the right side of abdomen, which was quite movable and slightly tender. On admission she complained of no pain or very little inconvenience on account of the tumor, and its growth had been slow. On May 15, 1902, the growth was located a little to the left of the median line, below the umbilicus and had the appearance of an ovarian cyst. The facial appearance of the patient

was not of this character. The tumor, on palpation, was easily movable in all directions, and while giving a sense of fluctuation, this was very indistinct. Examination per vagina gave no satisfaction except that the uterus and its appendages appeared normal. She was operated upon on the 15th, and a growth as large as a child's head was removed. The pedicle was composed of the omentum, through which ran tortuously large blood vessels for the distance of about ten inches, which were tied off with catgut ligatures. Connected to the growth was another pedicle, quite slender; its diameter not larger than a sixteenth of an inch, which extended to the broad ligament of the right side, from which point it is believed that the growth originally started. It is certain that this growth was not an organ of the body, as the kidney, spleen, liver, gall bladder, and in fact every organ was examined and the uterus and appendages were in good condition, and we were in a quandary as to just what it might be.

The report for the Pathological Laboratory was to the effect that it was a carcinoma of the omentum, probably secondary. The masses contained no fluid, but it was of such consistency that one could easily understand why the sense of fluctuation was imparted. What was of interest was, if this was a secondary growth, how had it entirely separated itself from its original site without leaving some traces of cancerous disease.

The age of the woman is such that we would not expect a carcinomatus growth and I will endeavor to watch with interest the outcome of this case. The omentum otherwise appeared healthy.

Curtis, Twentieth Century, says: That secondary carcinoma may result from the perforation or rupture of malignant ovarian or other cyst and its epithelial cells becoming implanted upon the peritoneal or omental coat, the character of this new growth taking that of its parent. What has taken place in carcinomatus growths may also take place with others, as in sarcoma, fibroma, etc. Thus Dr. Kelly, on page 345 and 346, 2d Vol., says: "Parasitic Myomata are usually pedunculated and depend for a part or the whole of blood supply upon adventitious vessels of the adjacent organs. Such tumors are gen-

erally large abdominal growths, either entirely detached from the uterus or connected with it by a small pedicle only, while they are intimately attached to the abdominal wall, intestines or omentum. Tumors of omentum attachments present the most striking characteristics of this group; the omentum forms a fringe around the upper border of the mass and its congested and tortuous blood vessels are enlarged to the size of goose quills, looking like a cluster of whip cords or a collection of angle worms in the space between the tumor and the transverse colon. In cases of cysts of ovaries, etc., when we have twisting of the pedicle, when we do not have the worst results, we may have the separation and atrophy of the pedicle, leaving the growth a sort of a wanderer, which on account of inflammation due to the loss of pedicle, may be found invested on all sides by adhesions from which it draws all its nutriment."

Dr. Kelly, on page 263, Vol. 2, says, "The omentum is more apt to contract adhesions with the cyst walls than any other abdominal organ, and these adhesions may be in form of one or more long ribbons attached to the tumor at the lower end, or the whole upper border of the omentum may be adherent," and on page 279, "Like ovarian cystomas the dermoid cysts may become almost completely detached from their natural vascular supply and depend for existence upon adhesions between it and other organs."

With these examples that growths on the omentum are usually secondary, we have associated the practice of the omentum wrapping itself around inflamed points, as the fimbriated extremity grasps the ovum, and is used to a purpose, in closing wounds of the intestine and other organs, and it is not infrequent to find that in perforation of the bowels that the omentum has sealed the opening and might have been the means of a cure; so in gunshot wounds and other abdominal inflammations. And, finally, a use is made of the omentum by artificially attaching it to the abdominal peritoneum to assist circulation in cirrhosis of the liver.

EMPYEMA.

BY DR. J. E. SCHEIFLY, KINGSTON, PA.
READ OCTOBER 1, 1902.

Patient, M. L.; female, age 17—Family history good; she had the various diseases of childhood and up to her illness, which I shall mention, she was in good health.

While attending church services one evening she was taken with a chill and complained of a severe pain in region of her heart. Upon returning home the family physician pronounced her case one of pleuro-pneumonia. She was under the physician's care for nine days when he discontinued calling, telling the patient she was well. He ordered a tonic for the girl which she took for the following week and instead of getting better, she gradually grew worse. Two weeks later I was called and found the girl with a temperature of 105 deg., pulse 150, quite weak, respiration 60, with night sweats. Upon examination I found a large quantity of fluid in left pulmonary cavity. The lung was consolidated into a small area, probably the size of a small orange. Mass extended to 12th rib. Heart was displaced about 1½ inches to right of ensiform cartilage. The girl had taken little nourishment for past 10 days, and was extremely weak.

After examining her carefully I ordered an operation. This they refused, and instead had a consultation with Dr. Guthrie the following day. We again ordered operation, and again they refused. Twenty-four hours later Dr. Trapold and myself saw girl and found pulse 158, temperature 105.5 deg., respiration 70. They consented to an operation, for which we were prepared. We were unable to say whether the effusion was purulent or not, so we used an aspirator and found pus. We made a large opening, probably 2½ inches in length, between 6th and 7th ribs, a little to the right of axiliary line and pus came pouring out. The exact quantity I cannot say, but believe between 4 and 5 quarts. We very slowly allowed the pus to exude as the girl's condition about this time was

nearly in a state of collapse. We placed a large rubber tube in the opening to give a free drainage, and bandaged her. Her stomach would retain no nourishment, being quite irritable, so she was fed per rectum, medicine being given hypodermically. Two days later her pulse was 120, respiration 40, temperature 102 deg. Her condition remained same for 10 days. About 16 days after the operation the temperature was normal; respiration 30, pulse 110. No pus exuding and wound closing. She remained in this condition several days, when Dr. Trapold again saw case with me, and we believed it safe to allow the opening to granulate. Four days later the temperature rose to 104 deg., pulse 145, respirations 40. Dr. Robinhold and myself again opened the wound, irrigated with boracic acid solution and again allowed free drainage. Each day for 18 days her pleural cavity was irrigated with the boracic acid solution until it returned free from pus. I again allowed it to granulate and in a few days wound was completely closed. Temperature and pulse normal, but respirations remained high, from 35 to 40. All this time the girl had been receiving a tonic and chiefly a milk diet. The lung gradually assumed its normal condition and in six months had regained its normal position and size.

REPORT OF A CASE.

BY DR. CHARLES ASHLEY, PLYMOUTH, PA.

READ OCTOBER 15, 1902.

Mabel D, age 7. Family history negative.

For the last two years patient had suffered with pain in the left iliac region, and could obtain no relief. At times this pain became very severe and was accompanied with nausea, vomiting, headache and diarrhœa. These acute symptoms occured about every three weeks.

Examination during an acute attack showed a very tender spot about the size of a dollar in left iliac region, midway between the umbilicus and crest of the ilium. This spot was dull on percussion and showed a slight bulging. The rest of the abdomen was tympanitic and slightly tender.

About one week after this examination I was called in a hurry to see the patient and given the history that she was playing on the floor with her little brother. He had jumped on her belly and she cried out with sudden pain. Her bowels moved involuntarily and she passed about two quarts of a salmon colored jelly-like substance.

I found her in a state of collapse and treated accordingly. She seemed at the time to be suffering from symptoms of internal hemorrhage. She continued to pass this colloid material all night.

Morning found her condition unimproved and Dr. Stewart was called in consultation. The question of exploratory operation was considered, but the expectant plan was decided the better for a day or so. The urine at this time was slightly albuminous. The next morning found the patient improved, and from this time on she made a rapid recovery.

Since this history, two months ago, the patient has been unable to have a passage without injection. I advised the mother to let her go without using the enema, but after five days she used the enema with good results.

DIRECT FIXATION IN FRACTURES.

BY DR. G. W. GUTHRIE, WILKES-BARRE, PA.

READ NOVEMBER 5, 1902.

The classic method of treating simple fractures by manipulation, coaptation of fragments, and the application of retentive dressings, generally, gives good results. The same may be said of the treatment of compound fractures, provided a condition of asepsis be secured and maintained during the process of repair. A number of circumstances, however, even in simple fractures, militate against good results; for example: muscular action, interfering with good coaptation ,the interposition of soft parts, muscles, fascia, and the like, and probably, also, blood clots and lymph. To this may be added great obliquity in the line of fracture, and great irregularity in the fractured surfaces as sometimes occur in cases of fractured patella. To overcome these obstacles, many surgeons of late have been advocating cutting down on the seat of injury, and reducing the fracture by direct fixation. Direct fixation may be defined as a process by which the fragments of bone are accurately adjusted and securely fastened in order that bony union may be obtained, and deformity prevented.

W. Arbuthnot Lane of England says, "in simple fractures, the surgeon, failing to secure accurate apposition as determined by the radiograph, should cut down on the site of fracture and restore the bones to their original condition and hold them by wiring or by nails." (*British Medical Journal*, May 26, 1902.)

Dr. W. W. Grant of Denver says, "the only way to more certainly maintain the accurate coaptation of fragments, in certain oblique and joint fractures, is to immobolize them by silver wire, screws, nails, or clamp, but only under the most approved aseptic conditions. In the absence of infection the results must be better. This department of Surgery has not met with the courage and skill that has been manifest in other fields, and it is too important not to receive the serious attention it deserves." (*Journal American Medical Association,* Vol. 36, p. 780.) Again he says, "nothing short of operation by wiring,

nailing, or fixation by some such contrivance will enable the surgeon thoroughly to adjust and fix the fragments." (*Journal American Medical Association*, Vol. 38, p. 506).

The *New York Medical Record*, Vol. 60, p. 458, Sept. 21, 1901, says editorially: "We may say, therefore, that in cases where ordinary means of reduction fail, we must consider the advisability of making an incision and thus reaching the seat of difficulty. * * * The general rule may, therefore, be laid down, that in fractures, simple or compound, where reduction is impossible by ordinary means, we must consider the application of bone or ivory supports in the shape of collars, nails, or screws to maintain the ends of the bone in their proper relation."

Dr. Estes in his address in Surgery before the State Medical Society at Lancaster in 1898, says, "that explorations by incision and adjustments of fragments by sight are not only justifiable, but in many instances absolutely essential for proper treatment. An accumulating array of instances has shown these incisions do not augment the danger when the operation is done with proper aseptic precautions, and that they markedly improve the results of treatment. The open method of treating fractures in proper cases is now not only the safe method, but the proper and imperative method of handling many fractures."

In the management of compound fractures the same rule as to the necessity of fixation of fragments holds good; for closed fractures become compound fractures when they are treated by the method of open incision. In the care and treatment of ununited fractures, or pseudarthroses, the method of open incision, resection of the ends of the bone and fixation of fragments by some of the various methods, has the almost general support of the profession.

Methods of Fixation—Many schemes have been proposed by the profession to carry out the purposes of fixation. Some of them very ancient.

Senn says that Lapeyode and Sicre of Toulouse are supposed to have been the first to use silver wire for this purpose, in 1775. (Practical Surgery, p. 531). Both Agnew and Holmes

say that fixation by wiring was first suggested by Horeau in 1805.

In 1845 Dieffenbach advocated drilling several holes through the ends of fragments and the insertion of ivory pegs, but this was rather for the purpose of exciting inflammatory action and the deposit of bony callus than for fixation; the pegs to be subsequently removed. With the same object in view, Pancoast, in 1857, drilled through both fragments, pinning them together, and left the drill in position, removing it after bony union had been secured,

Among the modern methods of fixation, the principal are suturing; the use of ivory, nails, cylinders or clamps, also intraosseous splints, and ferrules of bone, as recommended by Senn; and fixation by metallic clamps or plates, spikes, screws, or nails.

A very general assent has been accorded by the profession to the use of catgut and kangaroo tendon for suturing soft structures; periosteum, torn ligaments, muscles, and fascia. Senn, also, uses catgut to hold in place the fragments that have become separated in compound fractures, both of long bones and the skull. He carefully disenfects the separated fragments by a warm two and a half per cent. solution of carbolic acid, or a weak bichloride solution; places them in warm salt solution, reimplants them in their normal location and secures them by heavy catgut sutures and ligatures. His results have been most gratifying.

The whole trend of modern surgery is in the direction of the absorbable suture. Edebohls and Noble use catgut exclusively in their abdominal work. Kelly uses silk only in his four cardinal sutures for the ovarian and uterine arteries. Halsted, however, still uses silk in adbominal work, and buried silver wire in hernia. Silver is the only unabsorbable material that is worthy of the confidence of the profession in buried sutures. The investigations of Halsted and Welch demonstrate that silver has germicidal properties which render it serviceable in this work, and also as a first layer in dressings for raw surfaces. It is very easily encapsulated and very seldom gives trouble in bony structures. In three cases in which the writer

has used silver wire for suturing the patella, good results were obtained, but one of the patients returned at the end of six months with a suppurating sinus, caused by the silver wire breaking through its capsule, making its removal necessary.

The use of ivory and bone in the form of cylinders, or intramedullary splints, clamps and ferrules, has received considerable attention from some members of the profession, but they serve rather to show the ingenuity of the originators than any practical value they may possess; their use has not become general, and probably never will. The use of metallic clamps or plates, spikes, screws or nails has received a great deal of attention.

Several writers describe a clamp, made on the principal of the "iron dog" that sawyers and woodchoppers use to hold the log in position; called by one writer Gussenbauer's clamp, by another Brun's double metallic nail, one prong of which is driven into each of the fragments and allowed to remain until after union is effected, when it is removed. On the same principle Langenbeck screwed or drove a steel screw into each fragment and connected them by an iron bar. Parkhill's method of fixation, as described by Bryant, is a modification of Langenbeck's. Estes, in the *Lehigh Valley Medical Magazine* for August, 1896, describes a nickeled steel plate which he has been using to maintain coaptation in compound fractures for years. This plate, which is perforated with six holes, is laid across the fracture and holes drilled into the bones to correspond with those in the plate; the plate is then fixed by ivory pegs which protrude from the wound. The plate is removed in three or four weeks by breaking off the pegs and withdrawing the plate through a small incision. In a recent letter Dr. Estes says, "the little plate has given me great satisfaction, and has been quite successful in St. Luke's Hospital.

Wharton and Curtis describe a similar device in which the plate is made of silver and is secured by silver screws, entered flush with the plate and permitted to remain permanently, unless suppuration ensue.

Steinbach (*Annals of Surgery*, April, 1900) reports four cases of fractured tibia in which he used silver plate after

this method, and in which he got good results. He removed the plate under local anesthesia. Several kinds of such plates have been devised and recommended, made of different materials and secured by various devices. If a good aseptic condition has been secured, and the fixation devices be made of silver, whether it be wire, or screws, or nails, or plates secured by screws, suppuration may not ensue.

What has just been said above will apply with equal force to spikes and screws or nails. In resections of the large joints, as the knee, one or two nails or pins of steel, or some other metal, are a great help in maintaining apposition and immobility; but unless they be of silver they should protrude from the wound so as to be removed after a reasonable time. This method is given by Leech, and accredited to Annandale in the International Medical Annual for 1899, p. 293.

Current medical literature contains the reports of a goodly number of successful cases in which nailing has been resorted to. Bryant says that operative treatment in fractures of the femoral head was first suggested by Langenbeck, and successfully carried out by Koenig. I quote from Bryant's Operative Surgery:

"Koenig, operated in a case of recent fracture, making a small incision over the outer side of the trochanter major, drilled a hole through it with a metal drill in the direction of the head of the bone, applied extension to the limb to the extent necessary to overcome the deformity, and then drove a long steel nail through the canal in the trochanter into the head of the bone and left it there. The limb was then immobilized and extended for six weeks. There is no record of the ultimate shortening, but good union and free motion of the joint were obtained.

Cheyne, in a case of recent fracture, exposed the fragments through a longitudinal incision made over the anterior aspect of the joint, exposed the fracture, made extension and internal rotation of the limb, and with the fingers in the wound manipulated the fragments into place; then a small logitudinal incision was made over the outer side of the trochanter major, and two canals drilled through the fragments at a distance of

half an inch apart; ivory pegs were then driven through the holes made by the drill, and the limb immobolized. Good union and motion were obtained, but there is no record of measurements of the limb.

Gillette reports three cases of ununited fracture of the neck of the femur operated upon in the following manner: A horse shoe incision, with its convexity downward, was made, beginning an inch below and an inch posterior to the anterior spine of the ilium, carrying it down two inches below the trochanter major and bringing it up to the buttocks to about the center of the gluteus maximus muscle. The skin and the two layers of fascia were dissected up en masse. A chain saw was then passed between the posterior border of the tensor vaginae femoris and the gluteus medius, hugging the neck of the femur and the base of the trochanter major; it was brought out between the posterior surface of the gluteus medius and the anterior surface of the gluteus maximus; the trochanter major and its muscular attachments were sawed off, turned back, thus exposing the capsule of the joint. Then, by making a longitudinal incision into the capsule the fracture could be easily seen. The surfaces of the fractured ends were denuded and a bone peg driven through the neck of the femur, thus holding the fractured ends together. The capsule was stitched with catgut, the trochanter major restored, and nailed in place with a small bone peg, the skin closed and the limb immobolized. There was union and good motion obtained in all the cases, with shortening of from an inch to an inch and a half.

Curtis, in a case of ununited fracture of the neck of the femur of three months' standing, exposed the fracture through an anterior incision, passed a drill into the callus and between the fragments to cause irritation, applied extension to the limb and reduced the deformity, after which a drill was passed through the trochanter major from the outer side, transfixing the fragments; the handle of the drill was then removed and the drill itself left in situ. The anterior wound was closed and the limb immobolized. The extension was maintained for six weeks, at the end of which time the drill

could be easily removed. Good union and a useful limb were obtained with three-quarters of an inch shortening."

At the meeting of the Medical Society of the State of Pennsylvania, in Philadelphia, September, 1901, Dr. Charles E. Thomson of Scranton, reported a case as follows: Patient an old man aged 62; injured by a fall of rock in August, 1899; he was bedridden three months, no diagnosis having been made. He then came under Dr. Thomson's care. Diagnosis of intra capsular fracture was made by radiographs. Operation recommended by Gillette of St. Paul was done December 12th, 1899. A horseshoe incision was made around the trochanter major down to periosteum. The flap being elevated, a second flap including periosteum and a section of bone, about one-third of the shaft in thickness, two and one-half inches below the trochanter, was made and turned up. Fracture was found comminuted, several pieces of bone were removed, the fractured ends were then adjusted and a solid silver nail three-sixteenths of an inch in diameter and two and a half inches long was driven through the neck and into the head of the femur. The nail held the fragments firmly together, wound was closed with catgut sutures and the entire extremity and body encased in a plaster-of-paris dressing, extending from axilla to tip of toes.

No fever followed; the initial dressing was removed at the end of two weeks. At the end of five weeks the dressings were removed and the patient allowed to move about. He left the Hospital on crutches.

Seven months after the operation he complained of pain; a sinus appeared at the seat of incision and this was followed, later, by an accumulation of pus in the gluteal region, which was evacuated under cocaine, a slight sinus persisting.

Improvement continued for eighteen months, when he walked without cane or crutch. He had ninety degrees of free, painless motion. Shortly after he was found dead in bed. (Penn. Med. Jour., Apr., 1902). By the courtesy of Dr. Thompson I am able to present this specimen, the upper extremity of the femur of this case which was removed post mortem. You will observe there is firm, bony union and

that the silver nail can be seen at the point of entrance and at one or two other places where there are breaks in the callus at the line of union. Also, the accompanying radiograph which plainly shows the long silver nail, and a short one used in fixing the trochanter major.

Dr. Thomson, also, reported at the Saratoga Meeting of the American Medical Association, the following:

M. M., aged 60; miner by occupation. On February 7th, 1900, fell on the ice, striking on hip; was carried home and put to bed for three days, afterwards allowed to sit in a chair, where he spent three months. Could not put weight on limb for eighteen months, had constant pain in hip, walked with both hands on cane, (bent almost double), on which he carried the greater part of his weight, dragging his right limb; one-half inch shortening, marked eversion of limb; on manipulation distinct movement could be made out between head and trochanter. On examination patient appeared much beyond sixty years, and showed signs of senile degeneration, viz., general muscular atrophy, arcus senilis, and atheromatous arteries.

On August 28, 1901, under complete chloroform anesthesia, a horseshoe-shaped incision was made around the great trochanter down through the muscles to the periosteum. In this case no bone flap was made, the capsular ligament was opened and the free motility of the head ascertained. We deemed this step necessary because the skiagraph showed what we feared was ankylosis of head in the acetabulum. I then drove two solid silver nails, three-sixteenth of an inch in diameter and two and three inches long respectively, through the great trochanter, neck, and into head of the bone. Only the long nail reaching the head. It was not necessary to use drill before driving nails. Capsular ligament was closed with catgut sutures, external wounds with silkworm gut without drainage, aseptic dressings, and the entire limb and body encased in a plaster-of-paris spica. Patient did not suffer from operation, was allowed to turn over in bed, no elevation of temperature. Wound was dressed through a fenestrum in spica at the end of the third week, when stitches were removed, primary union complete. Patient was removed from Hospital at the

end of six weeks, and spica taken off at the end of nine weeks, when union appeared firm; forty-five degrees of free motion in the hip. Three months after operation he could bear over half the weight of the body on the limb, could walk upright; one inch shortening. Nine months after operation the limb was straight, motion normal, shortening one inch; can bear entire weight of body on limb without pain; walks with cane, but can walk very well without it. No pain except on direct pressure over seat of operation.

Dr. Reed Burns of Scranton, writes me under date of October 10, 1902:

"I have nailed one fracture of the neck of the femur in a girl ten years of age, four months or more after it occurred. I found the neck had been almost entirely absorbed; still the result has been quite satisfactory."

A reprint from the *Boston Medical and Surgical Journal* for March 28, 1901, was received to-day from Dr. Leonard F. Hatch of Lynn, Mass., in which he takes very strong ground in favor of the treatment of fractures by a new method used on this principle; to convert all compound fractures into simple ones, and when necessary, to make simple fractures first compound, and then simple again.

He gives reports of fifteen fractures treated after these principles, six compound and nine closed, or simple fractures; four of the long bones and five of the patella, all of which healed without pus, and gave perfect results.

He insists upon the most rigid antiseptic precautions; free incision in closed fractures, and enlarges the wound in compound fractures when necessary; washes out, thoroughly, all clots and debris, removes all shreds of soft tissue, and loose pieces of bone that interfere with perfect coaptation; ties all bleeding points carefully, replaces periosteum when it is separated, accurately adjusts the fragments, using no means of direct fixation in long bones; closes the wound with catgut sutures without drainage; splints are applied and bandaged firmly. Dressings are removed on the seventh or eighth day, and plaster cast or ambulatory splint is applied.

In fractured patella he resorted to direct fixation after the method recommended by Butcher.

He claims that this method of treating fractures is attended with less pain and swelling than the other methods; that it shortens the time of recovery by at least a week; that it prevents deformity and non-union. He, also, strongly commends and advocates the ambulatory treatment.

The following case appears somewhat unique:

On December 4th, 1901, I was called in consultation with Dr. Nathaniel Ross of this City, to see W. T., at his home. The following history was given: the patient, age 17, a pattern-maker's apprentice, was injured about two hours before by his right elbow coming in contact with a band-saw. The saw had cut through both a cotton shirt and a heavy undershirt; the elbow joint was gaping open; a wound, four inches long, extended across the posterior aspect; a fragment of the olecranon three-quarters of an inch long was completely severed and retracted by the triceps tendon, and the trochlear surface of the humerus scratched by the saw teeth. The wound was thoroughly cleansed and irrigated with bichloride solution about 1:3000. The retracted fragment was brought down and nailed to the shaft of the ulna, by driving a wire nail, called in the shops a cast steel brad one and one-half inch, No. 16, entering about one-third of an inch from the margin of the fragment and penetrating the shaft about three-quarters of an inch. The soft parts were closed with interrupted silk sutures, the upper flap punctured so that the nail protruded slightly; a skein of catgut was left in the inner angle of the wound for drainage, and sterile gauze dressings applied. The limb was placed in a straight anterior splint from shoulder to wrist. The most perfect antiseptic precautions possible were observed throughout. The wound healed without suppuration; the sutures were removed at the end of a week.

The nail was withdrawn January 11th, 1902, on the same day the accompanying XRay picture was taken by Dr. Ahlborn of this city. Passive movements were begun on this date, and a Stromeyer splint applied, the angle of which was changed slightly every day.

The accompanying photographs were taken in June; one showing the limb in a straight position, the other with the forearm flexed on the arm beyond a right angle. I also have the pleasure of presenting the patient who has, as you will see, perfect motion of the elbow joint, and an entire absence of deformity; in short, a perfect restoration of function.

It will be observed by consulting the radiograph which was taken after the expiration of the fifth week, that there is little or no callus to be detected, thus confirming the statement of Senn that "accurate coaptation and fixation of fragments are conducive to ideal callus production," while we all know that imperfect coaptation and faulty immobilization conduce to excessive callus formation which is most unfortunate in joint fractures. Indeed the accurate union in this case, and freedom from callus encourages the belief that osseous wounds may heal per primam very much like wounds in the soft parts.

This gratifying result warrants the conclusion that in order to secure a condition of very satisfactory asepsis, it is not neccessary to have at our command all the paraphernalia of the modern operating room. Here the operating room was the kitchen, but a very neat kitchen by the way, and in a comparatively new house; the table, a common kitchen table, the sterilizer, the range, with a tin pan in which the instruments, the nail, and even the metal tack hammer were boiled, and which served as an instrument tray during the operation.

It should also embolden the operator to attempt more surgery in the homes of patients, for with the common-sense means at our hands for disenfecting and sterilizing, to which may be added the use of rubber gloves, it is not always necessary to incur the inconvenience and suffering of rushing patients off to a Hospital, in order to get clean surgery, or to secure good results.

EARLY SYMPTOMS OF IMPENDING PNEUMONIA NOT USUALLY OBSERVED.

BY DR. H. M. NEALE, UPPER LEHIGH,
READ NOVEMBER 19, 1902.

During the past nineteen years, while living in a region where acute diseases of the respiratory tract are exceedingly prevalent during the fall and winter months (and I might add that it is not uncommon to see diseases of this character in summer), I have attended a great many cases of pneumonia. The early history of two or three cases that came under my observation, is responsible for a series of questions that I have asked all my pneumonia cases, for the past six or seven years. I will give you from some clinical notes in my possession the history of two cases.

In February, 1895, J. D. H., age 42, a lawyer by profession, called at my office, presenting the following symptoms: A peculiar hyper-sensitiveness to the slightest cold, momentary in character, but occurring every time he stepped out of doors, or took a cold object in his hand, such as a paper weight or cane or umbrella. He would notice a slight shiver pass over him, and at the same time experienced a slight metallic taste, sometimes very slight, and seemingly confined to the base of the tongue. Otherwise he felt as well as usual, with possibly a slight falling off in desire to take food. He stated that he had a good appetite for only one meal a day and that was followed by an uncomfortable feeling in the stomach, with an occasional twinge of pain. After a thorough examination I could detect no objective symptoms. Temperature normal and no physical signs of any trouble whatever. I prescribed quinine, two grain doses every four (4) hours, and advised ten (10) grains of dover powder at bedtime. I thonght nothing more about the case till four days later when he again called to see me with the same story, and also complaining of intense pains, at times in the pit of the stomach. He stated that he had felt better for a couple of days after beginning the use of quinine, but at

no time had this peculiar chilliness left when touching anything cold. I looked him over very carefully this time, made an examination of his urine with negative results except that the specific gravity was rather high: 1026. This time the tongue was coated and the breath heavy; I advised him to remain in doors and take an occasional hot whiskey in addition to the quinine, which was continued in increased doses, till he felt a ringing in the ear. He however told me that it was absolutely necessary for him to go to Philadelphia on the following morning to attend the Supreme Court then sitting at that place. As he had no fever and promised to be careful I told him to go. At that time, while nothing serious was to be seen, I had vague suspicions that something was going to develop. As he was constipated I gave him a pill of blue mass and aloin, to be followed by citrate of magnesia. He was away two days and upon his arrival home he sent for me. I found him with a dry cough, tongue dry and brown, with a temperature of 104 F., with slight dullness over base of left lung. He was very seriously ill for four weeks and finally made a slow but satisfactory recovery. He noticed no decided chill, but while in the city, the weather was cold and damp, and he was obliged to take hot whiskey very often in order to be able to attend to his business, according to his statement. In fact, when I saw him upon his return he had taken about all he could carry. I mention the foregoing to illustrate these symptoms, viz: slight creeping chills upon the slightest exposure to cold in any form. Metallic taste, fleeting or momentary, just a flash, as it were, and pain in the pit of the stomach.

I will now give the history of another case with the same premonitory symptoms, but not followed by pneumonia, after which I will endeavor to explain, from my point of reasoning, what these symptoms meant. Harry J. K., age about 30, clerk in a store, called to see me on the 8th of March, 1902. He complained with the same symptoms described in the preceding case. I immediately ordered him to bed and gave free diaphoresis laxatives; as no fever was present I gave no antipyretics. The feeling of chilliness upon touching cold objects, such as taking a glass of water in his hand, or touch-

ing the headboard of the bed, persisted for four days, when feeling considerably better I allowed him to get up. He stayed in the house for two days longer and then returned to his work. He said that he felt a little weak and shaky for a few days, and had a slight bronchial cough, which, however, only lasted a short time. He looked pale for two weeks or more, but gradually returned to his normal condition. As it is not often that one consults a physician in the stage of vague premonitory symptoms of any disease, it has not been my fortune to note personally many of the early symptoms referred to. Still, in nearly all the patients who have had pneumonia in which I have questioned them about their feelings prior to the onset of the disease, I have gotten from them a history of slight chills, persisting in many cases for two or three weeks. In some the peculiar metallic taste, and in others pain in the pit of the stomach, and in many cases all three symptoms have been present in varying degrees of intensity. Now what is to be learned from this? Can it be explained to your satisfaction or will you say in the language of the late Josh Billings, "Some folks know a great deal, but what they know ain't so."

It is not necessary to say that pneumonia is now classed as an infectious disease. And as such must conform to the laws governing all diseases of this character. We may safely assume that among the predisposing causes of throwing into activity the germs of pneumonia in an infected person are: first, age; second, malaria; third, exposure to cold, by which the secretions and excretions are temporarily locked up; fourth, alcoholism. These causes, while totally different from each other, nevertheless, under certain conditions, are productive of the same result. Each may produce congestion of the capillaries by different mode of action. They do not, in themselves, produce pneumonia, properly so called, but work such structural changes in the body that upon further disturbance of the general system a congestion of the pulmonary capillaries is likely to occur, a wound or an injury to the lung may produce inflammation and consolidation, but not a croupous pneumonia. A disease, which is stated by Whittaker, to cause 6 per cent. of all deaths and 12 per cent. of the mortality of

all internal affections, is a formidable disease, upon which one cannot expend too much thought in endeavoring to ameliorate its ravages. Whittaker further states, "That with the recognition of pneumonia as an infectious disease came the correction of many errors which, like the enveloping of a veiled statue, so obscured the figure that only its rough outlines could be seen." The recognition of the fact that pneumonia is commonly epidemic in character, dealt a death blow to the old theory that it was invariably caused by exposure to cold. Over 80 per cent., according to general observation, could recall no unusual exposure. Another error, that pneumonia attacks only the robust and healthy, was corrected by the observations of a French writer, who states that only 18 per cent. of cases under his observation were previously healthy. Ricketts, alcoholism, tuberculosis, malaria and previous infection furnish the victims of pneumonia. Not the outdoor but the indoor life is more liable to attack. Soldiers are more often attacked in barracks than in camps. Seventeen per cent. is the appalling percentage among nuns in the Paris convents. While three per cent. is the percentage among the washerwomen of the same city, and according to the same author (Parent du Chantilet).

Now, having shown or tried to show that the disease has temporal as well as causal relations, I would again call to mind the cases referred to at the beginning. The disease being infectious, two persons were similarly infected at different times, one went about his business and endeavored to brace himself up by the use of alcoholic stimulants. He narrowly escaped death from an especially virulent attack of pneumonia. The cause was either alcoholism or exposure to cold, or possibly both. The second case went to bed; was not exposed to any further predisposing cause, but by good feeding, rest and warmth he escaped, the germs apparently being eliminated without accomplishing their mission. By rest and good nourishment the line of resistance was strengthened and the patient kept up till the germs had lost their virility or were eliminated.

While it is not to be presumed that many will have an opportunity to see their pneumonia cases in the prodromal stage, it

would be advisable, in case it should so happen, to put them to bed, or at least keep them in doors, and by rest, warmth and good nourishing food, try to improve the general strength of the patient, and while pneumonia may not be averted the case is more likely to recover than if allowed further exposure, for I have observed that while many insidious cases are often among the worst, they usually occur in people whose previous health was broken down from other causes. The comparatively healthy patient may suffer for weeks with slight prodromes, such as have been described, and the disease may be prevented in some cases; its dangers lessened in all if recognized as impending or threatened by the symptoms I have mentioned.

PURPURA HAEMORAGICA.

BY DR. W. B. FOSS, ASHLEY, PA.

READ DECEMBER 3, 1902.

On September 1, 1900, a man brought a girl about 5 years old, into my office and called my attention to two or three what appeared to be bruised spots on the shins, saying they had made their appearance during that day and that they were not due to injury. These were all the spots that could be seen. I did not think them of much moment and sent the child home telling the father to keep watch of them, and to bring her back again on the following day. The next morning about 5 o'clock I was awakened by the same man telling me to hasten to his house as the little girl was bleeding from the nose and that they could not stop it.

When I reached the house I found blood everywhere, piles of clothes about the room soaked in blood and the bleeding

still going on. The skin was pale but studded over the entire surface of the body, from the smallest perceptable speck to that of a silver ten-cent piece were like patches as had been shown me the night before. I found on inspecting the mucous membrane of the mouth that the haemorrhage was the same as on the skin. The whites of the eyes were also studded with the spots of blood. Pulse was feeble and very rapid, and the surface cold. I plugged the nostril with absorbent cotten soaked in a solution of tannic acid. (The blood was coming at this time from but one nostril.) The child was unconscious, but could swallow. I gave at once ½ drachm fld. ext. ergot with stimulants and repeated the ergot in half an hour. I saw the child again in about an hour. The condition was about the same only that the heart was weaker and the haemorrhage from the nose had ceased. I saw her several times during the day. Condition about the same. Ergot was given in smaller doses at intervals of an hour. I called the next morning thinking to see the condition of the skin and ask what time the child died. I was greatly surprised to find the child not only living, but very much improved, and by the second day after the child was quite well. A good many of the spots of haemorrhage had disappeared leaving the skin a dirty yellow color. She made a good recovery from this time.

In the following March I was again called to see the same child under the same conditions. I gave her the same treatment and she again recovered, and so far as I know has remained well until this time.

The child had never been sick before and there is no history of a like disease in the family.

In May of 1901 I was asked to vaccinate this child with others of the family but refused to do so fearing trouble might follow.

EXTRA UTERINE PREGNANCY.

BY DR. W. S. STEWART, WILKES-BARRE, PA.
READ DECEMBER 3, 1902.

In presenting this subject to you, it is not my intention to enter into the causation or classification of Extra Uterine Pregnancy, for this you can get in any well written text-book. My object is to bring before you several interesting cases I had during the months of August and September and refer more especially to some points in diagnosis.

I have been impressed, in looking over my medical journals, of the great number of extra uterine pregnancies that are reported by different men throughout the country. It would seem it is almost as prevalent as appendicitis, and for that reason I think it is well for us to be familiar with all the points of diagnosis and able to recognize these cases early, for on that often depends the life of the patient.

The diagnosis of extra uterine pregnancy is easily made in the majority of cases, if one is careful in the history of his case, and in the physical examination. In atypical cases it may be very difficult and often impossible. It has been demonstrated by pathologists that tubal pregnancy occurs in women who have had some catarrhal or inflammatory trouble with the tubes, thereby changing the normal histology of the tube—it more frequently occurs in women who have not born children for a number of years. A characteristic case, as given in the American Text-Book of Obstetrics, is as follows: "A woman who has born one or more children, after an interval of from 5 to 20 years of sterility observes symptoms of another pregnancy. Her menses, which have been regular, cease, and the morning nausea, pain in the breasts, darkening of the arcola and other symptoms, characteristic of her former pregnancy, appear. In addition to these symptoms she has in one ovarian region dull pain; at times so severe as to cause her to seek the advice of her physician. This pain may continue until it cul-

minates in the acute paroxysm caused by rupture; or it may cease and not be noticed again until the rupture occurs. The most characteristic symptom of all is the sudden, sharp pain of the rupture. If followed by a marked anemia it is still more decisive. The bimanual examination, taken in conjunction with this history, points with absolute certainty to the nature of the pregnancy and the diagnosis is comparatively simple."

The one point in diagnosis that has impressed me, is the colicky pains coming on at irregular intervals; and in all the cases I have seen, that has been one of the prominent symptoms, and with a history of probable pregnancy, it should attract the physician's attention, sufficiently for him to make a bimanual examination, and if this is done you will often make your diagnosis before rupture takes place.

The cardinal points, as laid down for diagnosis, are: first, a history of pregnancy. Paroxysmal pains located on one or the other side of the pelvis. Irregular metrostaxis. The expulsion of particles of decidua. Enlargement of the uterus, with softening of the cervix and discoloration of the vagina. Tumor lateral or posterior to uterus and indirectly connected with it and changes in the breasts. These points, if carefully noted, will often lead to an early diagnosis. The cases I present to you to-night you will notice, all these points are not well brought out, it being difficult in some of them to get a very clear history. In one of them there was not even a history of suspected pregnancy, and in three of them there was no history of particles of decidua having passed.

Case No. I. Mrs. H., age 30, housewife, married. Has had five children at eighth month, all of whom died, one living to be 3 years old. Has had four abortions occurring before the third month. Her menstruation has always been irregular and painful, the periods being very frequent, occurring nearly every two weeks and lasting from two to four days. Last menstruation was in May. On June 20th she began flowing and July 4th was taken with severe pain, requiring morphia to quiet her. On July 23d had another attack of severe pain and was

compelled to take her bed, where she remained until July 29th when she got up and was around the house. On the morning of August 1st she was taken with a sudden, sharp pain and completely collapsed. Dr. Prevost was called and found her in great pain with evidences of shock. He applied the usual remedies and the patient rallied. On the afternoon of the same day I saw the patient, in consultation wtih Dr. Prevost, and found her suffering great pain, pale and anemic, abdomen very much distended and bathed in a cold sweat; pulse 90, temperature normal. The patient was positive she was pregnant although had had no very well defined symptoms. The Doctor stated he had been treating her for a threatened abortion, she having been flowing at irregular intervals for several weeks, with colicky pains. On making a vaginal examination, found she was flowing and was unable to outline the uterus, as it was pushed up behind the symphysis; the pelvis was full and bulging, especially in right side, abdomen distended, tense and hard and very painful, so much so I was unable to make a very thorough examination, on account of the extreme pain and her weakened condition.

The symptoms of pregnancy in this case were not well defined, although the patient was positive she was pregnant. Her menstruation being so irregular it was impossible to put much stress upon it. She had some nausea, but usually when the pain came on. There had been no change in the breasts, but the fact that the flow had been excessive, often passing clots, and with the history of colicky pains and the sudden collapse indicative of internal hemorrhage, with the displaced uterus and bulging in the cul-de-sac, we concluded we had a ruptured tubal pregnancy. The patient had rallied from her shock in the morning and there was no evidence that the hemorrhage was continuing, so we concluded to wait for an operation until she could be removed to the Hospital, it being a long distance to transport her in her present condition. She improved some in the next few days, and on August 5th she was admitted to the City Hospital. She was then suffering severe pain in abdomen, low down, so that it was necessary to administer mor-

phia. Had a bloody vaginal discharge, having a peculiar odor, anorexia, constipation and an inability to void urine, it being necessary to catheterize her. Examination per vaginam revealed the same condition found on the first examination, except the os was more patulous, admitting one finger, when I could distinctly feel what I thought to be placental tissue. The mass or tumor on right side could be outlined and gave the impression of a well defined tumor.

The patient was prepared for operation, which was done on the following day. Under aether I could outline the uterus, which was soft and very much enlarged; the tumor to the right of the uterus was well outlined, extending up to the umbilicus, and beyond the median line hard and tense. Could find no fluctuation at any point. The os opened sufficiently to admit two fingers, when I could feel what seemed to be placental tissue of a three months' fetus. This I thoroughly curretted out which to all appearance, was placental tissue and in quantity sufficient to make me believe I had an ordinary abortion to deal with. After thoroughly cleansing the uterus and washing it out, I made a vaginal incision and opened up a large hematocele, and on enlarging my incision a fetus about two and a half or three months was expelled, and on further exploring of the cavity I removed a great quantity of placental tissue with decomposed blood clots. I then discovered I was having a fresh hemorrhage and the patient was showing signs of shock. I quickly washed out the cavity with hot saline solution and packed the cavity full of iodoform gauze. The patient was then in a complete state of collapse when we transfused two quarts of normal salt solution and gave rectal injections of salt solution and whisky and hypodermics of strychnia. The patient left the operating room with a pulse that was imperceptible at the wrist and it seemed that she would certainly die. I continued to give her per rectum one pint of salt solution every three hours for twenty-four hours, when she rallied and did well for about two weeks, when her temperature began to go up and she showed signs of infection. I immediately made a careful examination and found a large mass in the same side and location

as the one I had evacuated. I had her removed to the operating room and again aetherized. I then enlarged my vaginal incision and made a careful examination with my hand in the wound, when I opened up another encysted hematocele with fully as much broken down blood and clots as in the first. I thoroughly irrigated the cavity, having no hemorrhage to contend with and packed with one or two strips of iodoform gauze, which was left in for four or five days, when it was removed and the cavity thoroughly irrigated every day with salt solution. After the second operation the patient made a rapid recovery and left the Hospital cured. Now it is very evident that the second hematocele was due to the hemorrhage which took place at the time of the first vaginal section, for the cavity was so thoroughly packed with gauze it was impossible for it to escape through the opening. The gauze I left in for one week, being afraid to remove it, fearing another hemorrhage, and during that time it became encysted.

This case is more than interesting to me for I believe I had here both an intra-uterine and extra-uterine pregnancy to deal with, from the fact that the amount of placental tissue removed from the uterus was more than that of a decidual membrane. At least in my experience I have never encountered anything like it before. I admit I made a grave mistake in not saving the contents of the uterus for a microscopic examination. There was no history of having passed a fetus but she had been passing a large amount of blood clots and it could easily have passed without her knowing it, as they so often do in a normal abortion.

The question will naturally arise in your mind, why I did not do an abdominal section in this case, especially after the hemorrhage started up, instead of packing with gauze. Had I attempted such a thing the patient would surely have died on the table, for the collapse was so sudden and complete it would have been impossible to have continued the aether any longer, and the only possible chance for the patient was to pack with gauze. I prefer doing a vaginal section in all these cases, when rupture has taken place, some time previous to the operation,

and is well walled off as it was in this case. It is less shock to your patient and they make a more rapid recovery.

CASE No. II. This patient I first saw September 2d in consultation with Dr. R. P. Taylor, when she gave me the following history:

Mrs. M., age 35; housewife; married. Has had two children, the youngest 9 years old. Says she has not been well since the last child was born. No miscarriages. Her menstruation has always been irregular and accompanied with severe pain. She had her regular menstruation in July but not in August, but had colicky pains beginning soon after she missed her regular period, but had no other symptoms of pregnancy. She began flowing at irregular intervals the last of August. She then went to the Pocono Mountains to recover from a severe attack of Bronchitis which she had contracted during the summer; and while there the pains became so severe she was under the constant care of a physician, without relief, but did not flow much until September 1st, when she began again. This alarmed her and on the 2d of September she returned home, and while on the train had a very severe flowing spell.

On examination found the patient's physical condition fairly good; pulse 90, temperature normal, respiration 20, very nervous; abdomen not distended but tender on deep pressure low down. On vaginal examination found a dark, bloody discharge, but patient so tender could not complete the examination. I advised giving her aether and making a thorough examination, which was done. I then found the uterus enlarged and soft, os patulous, marked discoloration of the vagina and a mass or tumor posterior and to right of uterus, easily palpated and freely movable. While under aether I curretted uterus and found it empty, with the exception of some blood and clots. I then made the diagnosis of extra uterine pregnancy and advised operation, telling the family rupture would certainly take place and the patient might lose her life. After the consent of the patient and her family was given for opera-

tion she was removed to the Mercy Hospital where I operated September 4th through the abdominal route. On opening the abdomen I found to my great surprise, rupture had taken place and the pelvis was filled with blood and clots evidently several days old. Introducing my hand I lifted up the mass, which proved to be the right tube, and ligated and removed it, and then thoroughly cleaned the pelvis of all blood and clots and washed out with hot saline solution, allowing some to remain in the pelvis.

The abdominal wound was closed by the layer method and cat-gut was used throughout the operation. This specimen showed a small rupture of the fimbriated end of tube, the tube very much distended with blood and clots and in the clots was found the fetus, probably six weeks old. This patient made a good recovery and was discharged at the end of her fourth week. This case is interesting from the fact that there had been no symptoms of pregnancy, except having missed her regular menstrual period in August. As previously stated, she had always been irregular, but she had the characteristic colicky pains, beginning soon after missing her regular period. She had the irregular flow coming on the last of August and a history of having very severe pain just before leaving the Pocono for home, very likely the time when the rupture took place, but no history of shock. With this history you would certainly expect a pregnancy, whether it be intro or extra uterine and when you make your vaginal examination and find the uterus empty and a mass posterior and to left or right, you can almost say positively you have an extra uterine pregnancy, for there are no pelvic troubles that I know of will give you these symptoms, and it is important to make a vaginal examination in all cases giving you a history and symptoms of this character.

CASE No. III. Mrs. P. was admitted to the City Hospital on August the 12th from Berwick, with a letter from her physician saying she had some pelvic trouble and wished Hospital treatment. She gave the following history: Age 25, housework, married. Has had two children, one eight years of

was also found thickened, enlarged and occluded at the fimbriated end and the ovary cystic and as large as an orange. This was also removed. The uterus was then fastened up to the broad ligament by several cat-gut ligatures on either side.

The pelvis or abdominal cavity was washed out with hot saline solution, allowing a pint or more to remain in the pelvis. The abdominal wound was closed by the layer method, using cat-gut throughout the operation. This patient made a good recovery and was discharged from the Hospital October 10th.

PARESIS.

BY DR. FREDERICK CORSS, KINGSTON, PA.

READ DECEMBER 17, 1902.

In this very brief essay I shall not attempt to enumerate all the symptoms which could be culled from the bibliography of the subject, but will merely mention those which have fallen under my own limited observation. I shall leave the treatment with the single observation that no general plan can be laid down, owing to the difference in patients and their means and environment. Those who believe in cellular therapeutics will give nuclein and will report astonishing results. I may say, however, that I think the valerianate and phosphate of zinc are decided nerve reconstituents.

The word Paresis occurs in classic Greek with a signification of relaxation or weakness or want of tone; in accent it is a proparoxytone; the vowel of the penult is epsilon (in Greek short e) and the accent is properly placed on the antepenult. The word is comparatively a late arrival in the English vocabulary; it does not appear in Dunglison's Cyclopedia of Medicine published in 1848, copyright of 1845, nor in Maxson's Practice of Medicine, 1861. It does not occur in an article by Adair Crawford published in 1845, although the essay

contains a fairly good description of the affection as now understood. It is not in Webster's Unabridged Dictionary of 1864, nor in Stille's Therapeutics of 1868. Dunglison's Medical Dictionary of 1868 has this entry: "Paresis, Paralysis. According to some a slight, incomplete paralysis, affecting motion, but not sensation." Quain's Dictionary of Medicine, 1883, defines Paresis as " a slight or imperfect paralysis of motion." From these references it is evident that Paresis or paretic dementia has become recognized as dependent on a gross macroscopic lesion of the brain only within the latter half of the 19th century. Still it is worthy of note that Hippocrates differentiated this affection from other mental disorders, giving "an exact though short description of cerebritis, under the name of "oedema of the brain" as an inflammatory disease for which he recommends blood letting.

It would be interesting, but would unduly prolong this paper, to note the progress of theories of mental aberration down to the present. In the dark ages the idea of demoniac possession held sway, and the terrors of exorcism added a dire chapter the annals of medieval cruelty. Demoniac possession is a belief of many European nations at the present time, and insane persons are by them looked upon as especial victims of divine wrath.

The theory of Hippocrates of oedema of the brain appears of ready explanation after making a section of a softened lobe of the cerebrum. Red, yellow and white softenings are terms used thirty or forty years ago to distinguish different appearances of softened cerebral structure, though now these are considered different stages of one inflammatory process. The remark of Dr. Todd, in 1845, is still true: "We would here observe that close and unbiased observation is more called for to promote the elucidation of the class of affections we are now considering than of any other,and we may add that an accurate symptomatology is as essential to this important end as an exact and minute detection of the several morbid appearances of the cerebro-spinal system."

The most learned and comprehensive book I have on mental

pathology is by Prof. Greisinger of Berlin; but a work by Prof. Spitzka of New York is far easier reading and more pointed in its diagnostics.

The disease called Paresis, or Paretic Dementia, is accompanied by more constant and satisfactory pathological findings than any other form of insanity. In all advanced cases a diffuse lesion of the brain may be confidently predicted and looked for, but when we reflect upon the diverse functions of different parts of the brain, any of which may be the seat of the lesion, we become prepared to expect a wide variation in symptomatology in different cases. In this respect cerebral topography becomes of prime importance. It is well known that the pioneers in this branch of study were the fanciful and erroneous Gall and Spurzheim. A scientific study of this interesting field of inquiry began about fifty years ago. At first in a vague and tentative way, which did not receive a very warm welcome from the foremost men of that day. I have not been able to find the earlier account of this excursion which I read recently. I think, in the writings of Prof. Dunglison. Cerebral localization should now be considered a regular part of study, as a great deal of very brilliant brain surgery has resulted from the certainty of the knowledge acquired.

The symptoms in cases of paretic dementia serve to suggest the locality of the lesion; but a paretic dement frequently shows the first sign of the approach of the disease by a defective articulation of words. Not from any special localized defect of the speech centre but from an incoordination of the complicated structures involved in articulation. Pari-passu, with the stumbling and hesitating speech appear signs of mental change or deterioration. Incoherence of thought and neglect of permanent business pursuits may be accompanied by an exaggerated idea of self-importance—*megalo-mania*—the idea of the possession of immense wealth and remarkable business acumen is common. This mental and nervous deterioration generally lasts from one to three or four years before the disease becomes sufficiently pronounced to warrant a positive diagno-

sis. Indeed, some individuals present this peculiarity of megalo mania all their lives, so that this symptom has no diagnostic value, except when considered in reference to previous peculiarities, e. g., a change from becoming modesty to unbecoming megalo mania, as an excessive generosity and garrulousness in a penurious and silent person, or hazardous investments made by one previously cautious in business ventures. Sudden lapses of memory are pathognomonic. When the speech stumblings and mental changes have existed for a varying time the manifest disease is ushered in by an epileptiform or apoplectiform seizure, which passes off leaving no paralysis of arm or leg, which will probably be the first positive proof of paresis, but articulation will be more imperfect than before the fit and the wrong word may be used to the embarrassment of the patient. Such complicated acts as walking become more difficult of execution, not from want of power but of power of coordination. The walk across a room becomes a run and the speech is explosive and jerky. The lips and tongue twitch and tremble and the facial muscles become contracted, the brow corrugated; occupations requiring nice muscular adjustment are no longer possible. If the speech centre suffers the local lesion aphasia, i. e., aphemia appears and probably at the same time the right arm and the right leg become paralyzed, or just before this a remission of all the symptoms occurs and the last remedy given gets the credit of a cure.

The remission may be for a few weeks or months, or a year at most, when sudden and violent flushings of the face precede convulsions which mark the renewal of the complaint and show its persistence.

Paralysis of the muscles of deglutition and phonation frequently embarrass the physician, and owing to a partial anesthesia of the trachea, the stomach tube must be passed with greater care than in normal states, as it may enter the windpipe instead of the gullet.

Delusions of grandeur and variable temper make the patient difficult of control, so that the "glad hand he extends toward you when you enter the room may become the closed fist before you have crossed the floor," or may grasp you by the ear in-

ste:d of by the hand. Maniacal fury frequently occurs in advanced cases when no great muscular debility has supervened. Hallucinations and changing delusions are attendant on the later stages, the latter generally unsystematized and disconnected. Changes of temperature and of the pupil are so various and irregular as to be of little diagnostic value. Delusions of grandeur are less threatening than mental sloth and stupidity.

Few opportunities have arisen for the examination of thebrain of cases in the earlier stages of this disease, as the victims are not very liable to be carried off by acute and intercurrent disorders. After two or three or ten years death occurs from exhaustion or decubitis or infection from bed sores, causing gangrene of the lungs or some such end, and it is not always or generally possible to distinguish at the autopsy between the primary and secondary lesions. But the brain and spinal cord will be found to have undergone intense degenerative processes, often ascribed to chronic inflammation. The membranes do not readily separate from the gray matter and may tear off portions of it on their removal. The sulci appear wider than normal from the shrinking or atrophy of the convolutions.

The white portion may appear almost soluble in water, as after washing little but connective tissue in shreds may remain. These gross changes are not equally distributed through the whole encephalon, but in portions are more marked than in others, thus showing the anatomical reason for some of the symptoms exhibited before death. In attempting to distinguish paretic from syphilitic dementia it becomes necessary to remember that paresis may complicate brain syphilis, but as Osler said at Saratoga: "If you know syphilis you know the whole thing."

I append Spitzka's definition of Paresis. He says: "The conclusion follows, that paretic dementia is a progressive deterioration of the central nervous system, chiefly affecting the brain, and the result of a chronic inflammatory process of angio-paralytic nature, whose essential element, the vaso-motor weakening, is due to over-strain of the encephalic vaso-motor centre, the exacerbating and remitting course of the malady, being the clinical expression of the struggle of that centre to regain its equilibrium."

REPORT OF CASES.

BY DR. L. L. ROGERS, KINGSTON, PA.
READ DEC. 17, 1902.

There is nothing remarkable in the following cases of fracture of femur, still some conclusion may be reached worthy of our consideration.

CASE I. July 18th, 1894. E. S. A., female, age 70; history direct violence by falling against a raised wooden sidewalk, striking on her side, probably on the trochanter. There was little shortening for about a week, when the true condition was apparent by shortening of the limb and crepitus. I applied extension by weight and pulley. The counter extension was made by raising the foot of the bed about six inches more or less in proportion to weight used.

CASE II. Mrs. C. S. Age, 72 years, occurred October 8th, 1894.

Case III. March 15th, 1895; Jacob D., age 89 years. The diagnosis in these cases was positive on the start and I applied the extension immediately. The weight was increased till the contraction of the muscles was overcome. Those patients who cannot endure the extension which is necessary to fully overcome the contraction of the muscles will not realize as satisfactory results as those who are determined they will submit to the suffering necessary in order that they may have good use of their limbs again.

Case No. I could not endure the weight as heavy as I desired. Still she did fairly well and had good use of the limb with some shortening and walked readily with a cane.

Case No. II had the weight heavy enough to fully overcome the contraction, leaving the muscles flabby and loose when the weight was lifted and the limb did not quickly resume its abnormal position or shortening. There was more extension in this case than I had thought the patient could endure

and was kept on for seven weeks. She used a cane for only a few months. She has had first-class use of it for eight years as a reward for her suffering that heavy weight for seven long weeks.

Case III. The extension could not be endured but was treated in the same way with that end in view, viz, full extension. The advanced age of the patient, who had not been able to walk well before, was altogether against his being able to stand or walk at all. He recovered, walked about his bed and room till the following October ,then died of dysentery. The point I wish to call especial attention to is that the muscles must be stretched till they are lax and limp all around the joint.

In proportion as this is fully or partially done, in the same degree will the result be fully or partially satisfactory.

DR. JOEL J. ROGERS.

The following tribute to the memory of the late Dr. Joel J. Rogers was submitted by a committee comprising Dr. Faulds, Dr. Guthrie and Dr. Gibson:

Dr. Joel J. Rogers, the oldest physician in Northeastern Pennsylvania, and a member of this society for forty years, died at his home in Huntsville, this county, on March 23d, 1902, at the advanced age of 84 years.

Dr. Rogers was born in Wilkes-Barre on March 4, 1818, and was a descendant of one of the pioneer families of Wyoming Valley. He was the son of Elder Joel Rogers, who was treasurer of Luzerne county in 1817-1818 and county commissioner for the succeeding three years. He was a grandson of Jonah Rogers, and a great-grandson of Josiah Rogers, who settled in Plymouth in 1776, and of whom history says: "The family was highly respectable and remarkable for its intelligence."

Dr. Rogers received his early education in the schools of this city, his father being teacher. When 21 years of age he began life as a school teacher, and after three years spent in teaching in the public schools in this and adjoining counties he entered the office of Dr. Sidney R. Warner of Huntington township as medical student.

In the winter of 1842-43 he attended medical lectures at the University of the City of New York. After three more years of teaching and studying medicine he commenced the practice of his profession at Lehman in 1845. A year later he located at Huntsville, where he lived until death summoned him.

He was in active practice up to the age of 74 years, and an active member of this society from 1861 to 1889, when, on account of age, he resigned his membership, and was by unanimous vote placed on the list of honorary members.

Dr. Rogers was married to Sarah Caroline Rice, daughter of Rev. Jacob Rice, on April 15th, 1851. His wife and all his

five children survive him, Dr. L. L. Rogers of this society being one of that number.

Inheriting a sturdy constitution from a long-lived ancestry, and possessing more than average intelligence, he was by nature well equipped for the hardships which his early life imposed, and for the arduous duties and responsibilities which the practice of medicine of half a century ago made imperative.

Dr. Rogers was a fair representative of the best type of the American character. From a pupil under his father's tuition he early in life advanced to the position of teacher in the public schools; and with the physical and mental energy, born of environment and hereditary transmission of acquired characters, he struggled on under adverse circumstances, hoping to reach the goal of his ambition—the doctor's title and the physician's fame. As an instructor in the village school, a friend of education during the experimental period of our country's history; a teacher in the Sunday-School for a period of sixty years, a life long Christian; an upright and patriotic citizen and honorable physician; he displayed the essential characteristics of the men to whom this nation owes her greatness and her glory.

While in active practice, although living a distance of eight miles from Wilkes-Barre, he often attended the meetings of our society, and enjoyed the friendship of the leading physicians of this city and county.

We all recall with pleasure his presence at our society banquet two years ago, when in choice dictum, and with the mental force of one of half his years, he gave us some interesting reminiscences of his professional life.

As a physician he displayed more than average ability, and was always regarded as the peer of his professional colleagues. If trouble came he did not regard it as a direct manifestation of Deity's displeasure for personal wrong-doing, but rather as an incident of the workings of a universal, inflexible law, to which all mankind is subject, and for the violation of which we are often the innocent sufferers.

In his dealings with men he was tolerant, kind, generous to

a fault, and when disease and misfortune overtook them he was their friend and counsellor, and often their benefactor.

Dignified in bearing, choice in his language, kind and sympathetic in the sick room, abstemious in his habits, with character never questioned, he won the hearts of his patients, and retained throughout his whole professional life the confidence and respect of his neighbors, and of the community which he so long and faithfully served.

Dr. Rogers belonged to the few physicians, members of this body, who registered without diplomas. In justice to them it is fair to say that when they entered upon the study of medicine it was in the office of a preceptor, whose duty it was to prepare his pupil for medical college as well as to give him opportunity for bedside experience. In those days the good name of a young physician just starting in practice depended more on the character and professional standing of his preceptor than on the reputation of the medical college from which he was graduated. So after getting the knowledge of anatomy, physiology, obstetrics, and practice of medicine, which could be acquired in one course of lectures and which was then taught in our medical schools to first and second-course students alike, along with the practical knowledge gained at the bedside, and by daily association with his home instructor, the incentive to save the time and money incident to a second course of lectures was very great and in some instances justifiable.

To their honor be it said, that while not graduates in medicine, they were without exception among the most reputable and conscientious practitioners of their day. One of them, as you all know, being among the most honored of the physicians of this city and of this society.

As members of this body, the death of Dr. Rogers marks the passing of this type of the physicians of the old school. They have gone to their reward. We hold them in affectionate remembrance for their kindness of heart, noble aspirations, kindly services, fatherly advice and assistance. Conscientious and progressive in their daily work, they helped to pave the way to grander achievements in medicine than, in their early career, they or the world ever dreamed of.

We pause to recount their virtues and to drop the tear of sorrow o'er their graves, while we pay tribute to one of their number, whose life and character is a fitting climax to the memory of those who with him sleep, and who, one by one, we have laid to rest.

DEATH OF DR. W. W. YOUNG.

On January 6th, 1902, came the startling news that our esteemed brother practitioner, Dr. Young, had succumbed to that dreaded malady, Septicemia, which stares into the face of every practitioner.

Dr. William Wallace Young was born in Philadelphia, Pa., July 4th, 1872. He was a grandson of Dr. William Young, who was born in Philadelphia, 1812. He graduated in medicine from the University of Pennsylvania, and afterward successfully practiced his profession in Chester and Philadelphia. His son William Wallace Young, father of the deceased, was born in Philadelphia 1845. He married Emma, the only daughter of Engelbert Ovenshine, and sister of Brig. Gen. Samuel Ovenshine of Washington , D. C., lately retired from Regular U. S. Army. Mr. Young died in Philadelphia, 1895, shortly after his son, the subject of this sketch, had completed his medical education.

Dr. Young was educated in the Public Schools of the city of brotherly love and the University of Pennsylvania, having graduated from the Veterinary Department of the latter institution in 1893, and also from the Medical department with the class of 1894. After the completion of his medical course, he served successfully the regularly prescribed Residents Course (one year, three months) in the Philadelphia Hospital.

He commenced the practice of his chosen profession in Nanticoke, in the autumn of 1895, and by close work and attention to his duties, as well as the careful and considerate examination and treatment of his patients, together with a competency and conscientiousness that characterizes the true physician, he rap-

idly gained an extensive as well as a lucrative practice. There was about him a certain reserve and apparent diffidence, which prevented him from impressing you strongly on first acquaintance, but the more intimate your acquaintance with him the greater he appeared to you.

Dr. Young was a close student and a careful observer and always strove to have a thorough knowledge of anything he undertook to master. In his practice he always devoted enough time to his patients to gain a thorough knowledge of conditions present. He was gentle and kind and treated his poorest patient in the same careful, considerate way he would the wealthiest. In his home relations he was kind, devoted and loving. He was never too tired, no matter how long and arduous the labor of the day would be, he would enter his invalid mother's and grandmother's rooms, give them a cheerful word and an embrace or a good night's kiss. His first and uppermost thoughts were for those around him and his patients. He took no thought for himself, if he could bring relief or comfort to the suffering. This is forcibly illustrated in a case on which he performed tracheotomy. The child had membraneous croup and after inserting the tube it became occluded and the little sufferer was rapidly becaming cyanosed. After several fruitless attempts to clear the tube, he heroically put his mouth to the opening, blew into it and saved the child's life, with fortunately no harm to himself.

Dr. Young was a member of the Episcopal Church of Nanticoke. As a man he was honest, pure and true and his profound reverence for his Maker as well as the respect he showed to all forms of religious worship, showed the respect and affection inherent in his nature.

In 1899, he married Miss Catherine Stackhouse of Philadelphia, a graduate nurse of the Women's College Hospital of that city, who, with a son one year of age, survive him.

Last but not least, we would speak of the love and devotion of our deceased brother toward this Society, both as a body and also individually. Promptly responding to the call of duty as an officer or member, his greatest pleasure seemed to be in

attending the regular meetings and exchanging news with his fellow practitioners.

We deeply mourn his loss and feel that the Luzerne County Medical Society has lost a valued member, a willing worker and a true friend. He is gone and we repeat the words of Thomas Moore, his favorite poet:

> But the night dew that falls, though in silence it weeps,
> Shall brighten with verdure the grave where he sleeps;
> And the tear that we shed, though in secret it rolls,
> Shall long keep his memory green in our souls.

G. W. GUTHRIE,
S. P. MENGEL,
C. W. PREVOST.

REPORT OF THE COMMITTEE ON LIBRARY

WILKES-BARRE, PA., December 17, 1902.

There have been scheduled and added to the Library for the current year 166 bound volumes. We have also received from Dr. L. I. Shoemaker 36 volumes of Woods' Medical and Surgical Monographs and 13 volumes of International Clinics which are not entered in our Accession Book. We are indebted largely, as in previous years, to the New York Academy of Medicine, having received from this source 104 volumes, a large portion of which was bound volumes of the London Lancet, beginning with the very first volume (1823) and enabling us to almost complete our set of this publication from 1823 to the present date. We have received the recent numbers, 1898 inclusive, from Dr. John Harris Jones of this city.

We have received a number of accessions through the Association of Medical Librarians, some of which were especially appreciated as helping to complete certain sets of periodicals that were lacking a few volumes. We are indebted also to Drs. Chas. McIntire, Maris Gibson, Charles P. Knapp, Charles Long, W. G. Weaver, Clive Smith, Walter Davis, Charles H. Miner, F. C. Johnson and L. H. Taylor, State Board of Health of New Jersey, American Dermatological Association, American Laryngological Association, American Surgical Association, Massachusetts State Medical Society, New York State Medical Association, College of Physicians of Philadelphia, Philadelphia Pathological Society and to numerous publishers of medical magazines who have presented copies of their periodicals through the Association of Medical Librarians.

We have purchased but few new books during the year. The whole amount expended not reaching the amount of the appropriation made by the Society.

There have been on file the following journals, all of which

have been contributed either by members of our Society or by publishers through the Association of Medical Librarians:

American Journal Medical Sciences.
American Medicine.
Albany Medical Annals.
Annals of Ophthalmology.
Annals of Otology, Rhinology and Laryngology.
Boston Medical and Surgical Journal.
Bulletin American Academy of Medicine.
Bulletin Johns Hopkins Hospital.
Bulletin Association of Medical Librarians.
Cleveland Medical Journal.
International Medical Magazine.
Journal American Medical Association.
Journal of Association of Military Surgeons.
Kansas City Medical Index Lancet.
Lancet, London.
Laryngoscope.
Medical News.
Monthly Cyclopedia of Practical Medicine.
Medical and Surgical Monitor.
Medical World.
Medical Libraries.
Modern Medicine.
New York Medical Journal.
New York State Journal of Medicine.
Philadelphia Medical Journal.
Pennsylvania Medical Journal.
Pediatrics.
Proceedings of Pathological Society of Phil'a.
Providence Medical Journal.
St. Paul Medical Journal.
Therapeutic Gazette.
University of Pennsylvania Medical Bulletin.
Western Medical Review.

Much work has been done during the year by Miss Bertha Faulds in classifying and rearranging the books of the Library. We recommend that the same appropriation be made as last year for the purchase of new books and the necessary amount for binding. The total number of volumes, exclusive of duplicates, unbound periodicals and pamphlets, is 2848.

LEWIS H. TAYLOR,
MARIS GIBSON,
Committee.

VITAL STATISTICS.

F. C. JOHNSON, M. D.

For the twelve months ending on November 30, 1902, there were 731 deaths in Wilkes-Barre, the lowest number, with two exceptions, in ten years. The number was 62 less than for the preceding twelve months. Wilkes-Barre is maintaining its reputation for being one of the healthiest cities in the country.

The following figures show the mortality rate for recent years:

Year.	*Deaths*	*Population.*	*Per 1000*
1890	691	37,615	18.3
1891	631	37,615	16.8
1892	815	40,000	20.5
1893	698	40,000	17.5
1894	910	45,000	20.3
1895	846	50,000	17.0
1896	744	50,000	15.0
1897	777	50,000	15.5
1898	716	50,000	14.0
1899	745	50,000	14.0
1900	801	51,721	15.5
1901	792	52,000	15.2
1902	731	53,000	13.8

Pneumonia usually leads in the number of deaths and has in Wilkes-Barre for at least seven years, but in the past year heart disease took a jump and caused the larger number of deaths from any one disease, the number being 76, compared with 59 for the previous twelve months. Pneumonia had a less number of deaths than in any year since 1896.

Another feature claiming attention is the large death list from cancer, a malady that seems to be increasing. There were 31 fatalities compared with 19 the previous year.

There were less deaths from typhoid fever than in any year on record, and also less cases reported. It is evident that many cases of typhoid are not reported, for the number of deaths is out of all proportion to the number of cases reported. A glance at the table shows that the mortality is apparently from 15 to 30 per cent. The statistics would look very much better if all physicians would conscientiously report all their cases.

Diphtheria continues to be less virulent than formerly. Though 162 cases were reported there were only 17 deaths. During the years 1890 to 1896, inclusive, the deaths ranged from 31 to 130. During the years 1897 to 1902, inclusive, the deaths ranged from 8 to 26.

Bronchitis shows a steady decline for five years and consumption for three years.

For the first time since 1896 grip has no victims.

Appendicitis has six deaths charged up to it.

There has been an increasing prevalence of scarlet fever for three years, but the mortality is low. Out of 843 cases in three years there have been only thirty deaths, which is the same number as in 1891 alone. In the year past there were 409 cases reported—the greatest number on record, but only fourteen deaths.

Measles fell off from 507 cases in 1901 to sixty-six cases in 1902, with no deaths in the latter year. Measles is the most fluctuating of all our contagious diseases. In 1897 there were 229 cases. Next year only one, and next year 144.

There were three cases of smallpox in 1901 and one in 1902, none proving fatal.

CONTAGIOUS DISEASES.

	Diphtheria.		*Typhoid.*		*Scarlet Fever.*		*Measles.*	
	Cases.	*Deaths.*	*Cases.*	*Deaths.*	*Cases.*	*Deaths.*	*Cases.*	*Deaths.*
Dec. '01...	5	0	1	0	43	0	3	0
Jan. '02...	14	0	3	0	93	3	2	0
Feb.	16	2	3	0	63	2	3	0
March ...	7	0	1	1	59	4	0	0
April	11	3	0	0	39	3	11	0
May	18	5	3	0	30	1	30	0
June	5	0	1	0	11	0	10	0
July	5	1	3	0	13	0	5	0
Aug.	3	0	11	1	11	0	0	0
Sept.	9	0	6	1	5	0	0	0
Oct.	41	4	0	2	17	0	0	0
Nov.	28	2	2	1	20	1	2	0
'02 totals	162	17	34	6	409	14	66	0
'01 totals	86	15	85	18	227	9	507	3
'00 totals	140	19	61	16	198	7	49	0
'99 totals	166	8	48	15	223	3	144	1
'98 totals	160	16	84	19	88	1	1	0
'97 totals	169	26	58	15	69	12	229	0
'96 totals	266	36	145	24	51	2	14	0
'95 totals	299	88	77	21	70	4	15	0
'94 totals	—	82	—	21	—	1	—	7
'93 totals	—	52	—	16	—	—	—	5
'92 totals	—	130	—	21	—	23	—	0
'91 totals	—	49	—	9	—	30	—	0
'90 totals	—	31	—	11	—	11	—	11

WILKES-BARRE MORTUARY RECORD.

Cause of Death	December 1901.	January 1902.	February	March	April	May	June	July	August	September	October	November	Totals, 1902 ...	Totals, 1901 ...	Totals, 1900 ...	Totals, 1899 ...	Totals, 1898 ...	Totals, 1897 ...	Totals, 1896 ...
Accident	4	3	5	4	3	2	4	2	3	—	6	3	44	64	57	64	48	61	78
Appendicitis	—	1	1	—	—	1	1	—	1	—	1	—	6	4	1	3	6	2	1
Apoplexy	4	4	—	2	—	1	3	2	2	2	4	2	26	30	23	19	19	18	16
Blood poisoning	2	2	—	1	1	—	—	1	1	1	1	1	11	3	14	10	6	11	6
Brain disease	1	2	1	—	—	—	—	1	—	—	2	1	8	3	5	19	3	33	18
Bronchitis	—	—	1	—	3	4	—	1	—	1	2	—	12	15	20	24	23	24	16
Convulsions	1	2	5	2	7	3	1	7	1	1	2	1	33	28	47	32	39	37	32
Cancer	4	—	4	5	1	3	1	2	4	2	—	5	31	19	27	22	15	16	14
Croup	—	2	—	2	—	—	2	—	—	1	—	1	8	4	4	11	8	15	14
Cholera infantum ...	—	—	—	—	—	—	5	12	14	4	3	—	38	30	37	33	50	31	38
Consumption	4	—	3	5	1	6	2	2	—	2	2	1	28	46	51	44	47	34	42
Colitis and enteritis..	1	—	—	1	—	1	2	4	5	—	—	—	14	16	22	13	17	20	20
Diarrhea	—	—	—	—	—	—	—	4	3	2	1	—	10	5	9	5	7	4	13
Diphtheria	—	—	2	—	3	5	—	1	—	—	4	2	17	15	19	8	16	26	26
General debility	3	3	2	1	4	3	2	4	4	1	2	2	31	34	41	39	44	35	27
Grip	—	—	—	—	—	—	—	—	—	—	—	—	—	7	8	9	2	3	—
Heart disease	5	10	5	10	9	9	4	5	5	3	6	5	76	59	55	44	46	61	43
Hemorrhage	—	—	1	—	—	2	—	—	—	—	1	—	4	10	—	5	3	3	7
Kidney disease	—	1	1	4	2	4	4	1	7	2	2	2	30	39	22	34	22	31	20
Liver disease	1	—	—	—	2	—	—	—	1	3	1	—	8	6	9	6	9	7	11
Meningitis	3	—	1	1	1	—	1	3	2	—	2	—	14	11	23	17	20	—	—
Paralysis	2	—	—	—	2	2	1	1	1	1	—	2	12	8	7	7	8	10	10
Peritonitis	2	—	1	1	—	1	—	1	—	1	—	—	7	18	11	9	18	13	17
Pneumonia	7	6	5	7	14	15	7	1	3	2	1	5	73	95	86	109	83	97	72
Still born	3	3	3	5	4	6	3	4	4	4	1	5	60	69	51	57	50	79	75
Scarlet fever	—	3	2	4	3	1	—	—	—	—	—	1	14	9	7	3	1	12	2
Stomach disease	—	—	1	1	1	1	—	2	—	—	—	—	6	3	6	10	7	6	4
Tumor	—	—	—	—	1	—	—	—	—	—	—	—	1	3	5	2	3	2	3
Typhoid fever	—	—	—	1	—	—	—	—	1	1	2	1	6	18	16	15	19	15	24
Weakness	1	2	—	4	2	2	1	—	4	6	2	6	29	39	45	22	3	19	40
Other diseases	3	3	1	6	3	9	7	6	3	9	3	4	77	78	73	50	59	62	51
Totals by months ..	55	53	50	67	72	81	56	67	74	48	55	54	734	793	801	745	716	793	744

*Other diseases, not included in the classification above, but included in the totals, are as follows: Asthma 11, alcoholism 3, exhaustion 2, Graves' disease 1, lockjaw 2, strangulation 2, stricture of esophagus 1, premature labor 2, cystitis 5, gangrene 3, intussusception of bowel 2, spina bifida 1, constipation 1, epilepsy 1, muscular atrophy 1, obstruction of bowels 7, ulcer 1, malnutrition 4, rheumatism 2, suicide 3, ulceration of bowel 1, whooping cough 5, cyanosis 1, empyema 2, pyrosis 1, complication of diseases 2, syphilis 1, bed fever 1, liver obstruction 2, nose bleed 1, unknown 5.

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FOR THE

Year Ending December 31,

1903.

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OF THE

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FOR THE

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ADDRESS OF THE RETIRING PRESIDENT.

DR. G. T. MATLACK, WILKES-BARRE, PA.

READ AT THE ANNUAL MEETING,
JANUARY 14, 1903.

In pursuance of a time-honored custom, I submit to you at the close of the year a brief review of the work of your Society.

A careful search of the minutes during the year fails to find any questions of ethics, or personal controversies, unfortunately common in some medical organizations. The expression so common among the laity "that doctors will differ," finds no confirmation, at least in the personal relation of our members. The mutual enthusiasm to promote its welfare and the consequent subjections of individual interests to the common good, have constituted the unwritten code that has regulated all our sessions.

I congratulate you on the promising state of the Society. The activity in its work has never been more decided, its power for good never more marked, the assurance of extended usefulness never stronger, and, better still, it continues to maintain the best professional tone and as powerfully as ever to foster the spirit of a high grade of brotherhood.

Six new members have been enrolled during the year.

We recall with sorrow the death of Dr. J. J. Rogers, an honorary member, which occurred since the last banquet. He was an active member in the early history of the Society, and remained so until advancing age impaired his health.

There have been no resignations, two members being dropped for non-payment of dues.

We have had nineteen meetings, and all of them have been well attended. All meetings have had instructive papers and valuable discussions. A review of these communications reveals the fact that none of them were without practical and scientific interest, and that the greater number of them are of a high order.

The Society has kept itself in touch with the advance of medical knowledge; the latest results of the advancing labors of the profession have been presented to you and discussed in a spirit of broad and liberal criticism.

This Society should continue to make its power and influence felt in the meetings of the State and National Societies by the character of its delegates and their intelligent action upon questions relating to the welfare of the medical profession, and the extension of its usefulness.

The new code which we will adopt this year changes very markedly the number of delegates, giving us one delegate to every hundred members or fraction thereof, so I hope that the membership for the coming year will go over the hundred mark, the present number being 93.

I wish to make special mention of the work of the Library Committee, for in their untiring efforts and enthusiasm they have succeeded in a remarkably short space of time, in furnishing us with a large and most excellent working library. It has grown with such rapidity that we have not waked up to a realization of its magnitude, nor to the benefits to be derived from it. I hope that we will all appreciate the great work this Committee has done for the Society.

How much of the success of this Society is due to its social functions I am unable to say, but good dinners seem to be most necessary to the success of institutions of this kind. It brings you together under favorable circumstances, causes you to drop your cares and troubles for the time being, at least, and take the goods the gods provide us. In this social way you are doing a duty to the Society, for among its duties—and I think you all agree with me—good fellowship is one. It is one, too, that should not be easily forgotten, for it has been proven that associated effort, whether of the muscles or the brain must be sustained and stimulated occasionally by social reunions, otherwise it weakens and falters.

I think it is twenty-two years since the first doctors' banquet was given in this city, by Dr. G. W. Guthrie, at his home.

There were a lot of good fellows there, none better, I guess, ever lived. They soon learned the advantages to be derived from such meetings, and they kept them up. The expressions of cordial and kindly feeling that existed at that first banquet most certainly had a beneficial influence, and we younger men who came after were fortunate in having such good professional environment thrown around us. These good men built a social structure among the profession here, and it was founded on friendship, harmony and hospitality, and these foundations have grown firmer and stronger with each succeeding year. It is not affected by corroding fogs, cyclones, high water, nor strikes, and from its present appearance it looks as if it would stand as long as time endures.

The practice of medicine is a sort of sacrifice; we move, so to speak, in an orbit of our own, and we should seldom, for our own good, forego a suitable opportunity of assembling in force around the festive board to indulge in a little clannish glorification.

There are other duties we owe to the Society and to ourselves that we should keep fresh in our minds. These I will not enumerate, except to remind you how important it is that we should attend every meeting of the Society that we possibly can.

In retiring from the office of President I desire to express to you my high appreciation of the honor you have conferred upon me and to thank you for it. I shall cherish the memory. It has brought home to me the energy, the studiousness and devotedness of the members of this Society, and a realization of its high sense of duty. I thank you for your constant courtesy and your generous forbearance with my shortcomings as a presiding officer.

I congratulate you that you have chosen as your next President a member who is becoming distinguished as a surgeon and hospital superintendent; but, above all, as a sincere, earnest and true physician.

NEURASTHENIA.

BY DR. B. J. WETHERBY, WILKES-BARRE, PA.
READ FEBRUARY 4, 1903.

Neurasthenia, or nervous exhaustion, is one of the most trying forms of disease a physician has to contend with, and deserves a place in the front rank of the diseases of to-day. Such a position has been accorded it by many of the leading neurologists.

It has, strictly speaking, no pathology; but is very often associated with diseases which present both pathologic and histologic changes. A confirmed neurasthenic might consult a beginner in medicine, and after a most careful examiation, the doctor might conclude that nothing ailed the patient. If this patient sticks to the doctor, the latter will have reason to change his mind before he is done with him. Nothing ails him; and yet, paradoxical as it may seem, everything ails him from heart disease to impending loco-motor ataxia. These troubles may be, and usually are, imaginary; nevertheless, they are very real to the patient. Let not the doctor scoff and laugh at such patients, with their many and varied complaints, for, who knows, he may be a neurasthenic himself some day.

Heredity is the chiefest of all causes. In a very large per cent. of cases a distinct neurotic history can be traced through several generations of the ancestry. The form of taint differs in different cases, and in different generations of the same case. It may not have manifested itself as neurasthenia proper, or if it did it was an entirely different type of the disease. Parents who are addicted to the use of alcohol, or who have any other drug habit, are very likely to beget children that later in life, under the stress and strain of modern civilization, become neurasthenics. The old law, that the sins of the parents are visited on the children even to the third and fourth generations, applies to all manner of weaknesses of mind and

body as well as of morals. Many, if not all, criminals are born, not made. Given a father and mother who are nervous, fretful, irritable, easily discouraged, who are one-sided in their views—"sot," as Samantha would say—and who as a rule have poor digestions, are easily tired; people who think that the world is all wrong and that it is their business to right it; you can tell almost to a certainty what their child will be—what it *must* be, in fact. Of a child of such parents we might say as did Artemas Ward of a certain person: "It would have been ten dollars in his pocket if he had never been born."

In studying heredity in connection with neurasthenia I have had forced upon my mind the more than apparent relationship which exists between different diseases of a certain group, suggesting a common underlying cause. This group is one in which appear migraine, epilepsy, kidney and liver disorders, asthma, and the others of a group that go to make up the so-called uric acid diathesis. In the case of one of my highly neurasthenic patients, one paternal ancestor was simply "nervous," as he called it, high-strung, self-opinionated, was a poor sleeper, had a bad digestion, was always going under high pressure yet never accomplished much. He had no organic disease, but was a chronic medicine-taker, and early in life he retired from any active calling. This ancestor's father died from Bright's disease. Heart disease, rheumatism, migraine, asthma and kindred diseases ran back through generation after generation. On the patient's maternal side the mother was moody, easily irritated, but becoming sulky and silent when suffering from a real, but more often imaginary wrong or slight. Another maternal ancestor had epilepsy; and that is as far as I could trace the ancestry on the maternal side. To one studied in heredity this patient is a perfect mixture of the two types, or family heads; sometimes sulky and morose like his mother, again irritable and fretful like his father, and always going under high tension even in the most trivial affairs of life. This disposition or temperament is the young

man's heritage, and by it he will be handicapped all his life. It is too bad we cannot select our own ancestors.

When we attended school we learned that "all men are born free and equal." This is not true, for men are born very unequal, and unequal they remain to the end of life. Recently an eminent divine delivered a eulogy on the life of our late president, William McKinley. A man well advanced in years at the close of the speech remarked that the good Bishop might have gone a little farther for the good of the young men present, and might have said that what McKinley did they, too, may do. The Bishop was wise in stopping where he did. Any man cannot be a McKinley or a Lincoln, unless he is born with the right kind of stuff in him. Such men are born, not made. McKinley and Lincoln were not neurasthenics.

Much could be done to lessen or modify the amount of vicious inheritance in such cases, if it were possible in some way to cause the prospective parents to know themselves and then to honestly set about improving their own dispositions and manner of thought and life in the interest of the coming child. We know this to be a fact. There is more in maternal impressions than many think; and I have given the subject careful study for many years. We know that the occupation and emotions of the prospective mother influences the mind of the child in utero. I could give many examples of this fact, but it is not worth while. I wrote a couple of articles on this subject which were printed in the *New York Medical Record* ten or twelve years ago, and have had no reason to change my mind since.

Unfortunately, neurasthenic parents are not open to advice and do not see themselves as others see them. If they were to be told of their shortcomings they would not believe. With neurasthenics it is generally a case of "you are wrong and I am right" seven days in the week.

They rush into parenthood to gratify a passion.

But the child of such parents is born. What next? If such parents are unfit to beget children they are

equally unfit to rear them. This is a serious problem and will never be worked out. The child cannot be taken away from its parents, even if anyone wished to do so. It is started out on its pilgrimage through life by living in an atmosphere of strain and unrest that fills the home of the neurasthenic. At an early age he is sent to school. His teacher generally finds him very apt. He often not only stands at the head of his own classes, in his own grade, but often, if he has the opportunity, learns part or most of the lessons a grade higher than his. He often becomes the prize or show pupil, and great things are predicted for him when he gets out into the great world of business and work. Do we hear of him again? Not often. He has exhausted or bankrupted his stock of nervous energy in winning his college prizes. His name will never figure among those of our presidents. Rather he may be found heading reform movements, or starting some so-called religious sect. He who was so apt under the excitement of school competition often sinks below the common level when the dull routine of ordinary work or business calls upon him to provide food for his babies.

While many cases are due to heredity and subsequent training by neurasthenic parents, there are many other causes, among them a large per cent. being due to overwork with worry. While a neurasthenic is always a worrier, worry long continued will cause neurasthenia. I very much doubt whether hard work, without worry and fret, unless it is too prolonged, will ever produce a case of neurasthenia. Prolonged alcoholism is a very frequent cause, and an alcoholic parent is very apt to beget a neurasthenic offspring.

Sexuality causes many cases. Over indulgence may cause it, and so may enforced continuance, the latter, I believe, more often than the former.

Poverty is also a cause, if, with poverty, there is education, and ambitions unattained. The parson who comes from a line of poor ancestors, who were content with their lot and had no ambition except to get plenty of food and decent shelter, sel-

wanderers, anyway. It may take a long time to gain this confidence, and will require a great amount of patience and tact. A nervous physician cannot successfully treat a nervous patient; patience and tact are not often found in the make-up of the neurasthenic.

Your progress will be slow; but when the patient's confidence is once won, more than half the work has been accomplished. Each case is a problem by itself. We must not treat the disease so much as the man. Don't lose sight of the man. Tell him positively he will get well but that it will take some time, and that he must not expect too quick results. Build up the general health in every possible way, whether it be by the use of medicines, rest or exercise, change of climate and scenes, an ocean voyage, or whatever is best in each individual case. The glycero-phosphates are with me the best tonics for these cases. The bromides are sometimes indicated, alternating with the valerianates. Of the bromides, I like the bromide of strontium best. Besides having a general plan of treatment which you are pursuing, you must also at least seem to treat the symptoms, for remember they are very real to the patient. Don't ridicule your patient nor tell him there is nothing the matter with him. Listen to his story patiently and with interest, and then inspire him with hope. See him often; much depends on this. As the old symptoms pass away and new ones take their places, time rolls on and he sees that he is still alive. Gradually he will himself begin to make light of his symptoms, and finally, one by one, he will forget them. It may seem odd that it takes from two to six years to cure a patient, who, to all appearances has nothing much the matter with him; but such is the fact, or so it has been with my cases.

DISCUSSION.

DR. WALTER DAVIS.—It seems to me this is about as hard a thing to discuss as anything I know of—it ranges from insanity to hysteria. The mental symptoms of some of these cases certainly border very closely on insanity; for instance I read a book on neurasthenia, by Regiss, in which he describes

many cases which, as I said, border closely on insanity; for instance, the manias in which there is impulsion, such as kleptomania and such manias. Regiss says, from the standpoint of the mental neurasthenia, it is a disease of the will, in which the man is not able to stop himself in some suggested act, or not able to make up his mind to perform an act. I have seen cases in which inability to make a decision is prominent; the man would be worried about business, and unable to make up his mind what to do; he would think about it so hard his brains would stick out on his forehead, and very often from impulsion would swear, and be unable to restrain himself from uttering some blasphemous word.

This book I speak of, Regiss, divides the symptoms in indecision, fear, and propensity to inability to resist. Of course there are other forms of the disease besides the cerebral forms —spinal, etc. It is easier to see the cause in some incompetency of the nervous system than to describe the symptoms.

DR. L. H. TAYLOR.—It seems to me this is a very important subject. I have had something to do with people who were troubled with neurasthenia, and I think you will all confess the same, that they are the sort of patients that we would be glad to have some one else treat, some of them at least.

I think of one similar to one Dr. Wetherby mentioned, who called on me every day and several times a day, sometimes, with all sorts of symptoms, all sorts of diseases, and absolutely nothing the matter. I won't say nothing the matter, but no organic disease.

I see a great many nervous people who come to me about their eyes. I believe this is a prominent symptom of neurasthenia. I never was one of the sort that in my special work believed that all cases could be treated by the fitting of glasses or the cutting of muscles, or something pertaining to the eyes, although I may have fitted a great many cases with glasses, and I trust some with good results. But Dr. Gould has recently written to the effect that all neurasthenic patients and a great many insane patients are so because they have an incorrected astigmatism. This is true to a certain extent. There are a great many cases relieved by fitting with glasses, and some that are not. I call to mind a patient I had a few years ago, who told me he was afraid to go out on the street to meet anybody. He was very nervous. He said he was unfit to attend to his duties as a physician and afraid he would have to give up his work entirely. I fitted that man with a low grade of cylinder glasses;

he had astigmatism against the rule. He came back a few years afterwards entirely well and said it was due to the glasses he wore, and I believe there are many cases that may be benefited with glasses.

One prominent physician in New York claims that all cases of nervousness can be cured by cutting the muscles of the eye. The point I believe is the strongest in neurasthenic patients is the difficulty they have with the stomach and constipation. I believe if people regulated the diet properly, and the amount they take into the system, and the proper ejecting of the waste matters, there would be a great deal less neurasthenia. The chief difficulty in my mind, on with the hurry and worry and rush and tear we have in this age, is the difficulty people have with their digestion. Dr. Wetherby refers in his paper to the fact that these people generally have poor digestion.

I think if we could learn to do a little less than we do, and teach our patients to do a little less, the world would be the better for it. Some people do a great deal and accomplish nothing. It is not the amount of work we do, but the amount of energy we spend doing it. Some people spend more energy than others in doing things. The tendency of all of us is to have too much on hand and to spend too much energy as a cosequence.

VACCINATION,

WITH SPECIAL REFERENCE TO ITS TECHNIQUE AND NON-TAKING VACCINATION.

BY DR. W. H. FAULDS, KINGSTON, PA.

READ FEBRUARY 18, 1903.

Dr. Weaver's excellent paper on vaccination, which was read before this body one year ago, is no doubt still fresh in your memory, and while it may seem presumptuous on my part to again so soon ask your consideration of the same topic, the volume of literature on the subject, and the interest which attaches to its history, as well as a desire to call your attention to what I believe to be an improved vaccination technique, is my apology for the presentation of this paper.

"If ever a discovery was announced to the world with due deliberation, it was vaccination," so says a prominent writer.

It was not until twenty years of experimentation that Jenner gave his discovery to the public. Eight years later the procedure was known and practised all over the then civilized world. Up to this time small-pox had existed since the thirteenth century, and was regarded as the greatest scourge of mankind, the king of fatal diseases, and the cause of one-eighth of all the deaths among human beings.

In Europe, prior to vaccination, the average death rate, decade after decade, from small-pox, was half a million. It differed from the plague in being always present. "In non-epidemic years the mortality was one-tenth of all the deaths, in epidemic years, one-half. Very few escaped the small-pox to old age, and almost every one sickened at least once in his life of this horrible murderous disease."

In Mexico in the sixteenth century, in a few years, three million five hundred thousand yielded up their lives to it, leaving in some places scarcely enough people to bury the dead. In Iceland, in 1707, it was the cause of eighteen thousand deaths, out of a total population of fifty thousand. Europe, in the century preceding vaccination, lost in deaths from small-pox fifty millions of her population. Of the American Indians sixty thousand died in one epidemic, and in some instances whole tribes were almost exterminated. Of new born children one-third died of small-pox before their first year, and one-half before the fifth year of life. Macaulay, in speaking of small-pox in England, says: "It was always present, filling the church yards with corpses, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed objects of horror to her lover."

From 1702 to 1792, a period of ninety years, one-half of the people of the city of Boston were ill of small-pox, and the average death rate was twenty-seven per one thousand from this disease alone. Vaccination was made obligatory in 1810 and for the succeeding twenty-six years there were but thirty-seven deaths from small-pox in that city, most of which occurred outside of the city limits. This law was repealed in

1836 and vaccination was made optional instead of obligatory. During the following twelve years, five hundred and thirty-three died of small-pox.

Were it my purpose, I might devote the whole time given to the reading of this paper to this phase of the subject, but as you are probably all familiar with the history of this awful disease as related in our medical text-books, a mere reference to it will suffice.

Inoculation with small-pox virus, as practiced in England from 1747 to 1821, proved a great boon to that people; for while a great number contracted small-pox by coming in contact with the inoculated, the death rate was reduced from thirty-seven per cent. in those who took the disease naturally to one in three hundred cases of inoculated small-pox. The hospital records show that only three in a thousand died of inoculation.

It is interesting to note that the Chinese practiced inoculation for hundreds of years before it was known to the European. In 1817 the wife of the English Ambassador to Turkey in writing to her home, says: "The small-pox, so fatal and general among us, is here entirely harmless by the intervention of engrafting. Every year thousands undergo the operation, and take small-pox by way of diversion as they take water in other countries. There is no example of any one who has died of it."

But, notwithstanding the death rate in the inoculated was decreased, the appalling mortality continued, and under these conditions, civilized man became hopeless of a remedy, and the untutored savage died by his own act to escape the dreadful malady. With the discovery of vaccination as a preventative of small-pox, the whole civilized world soon put on new life. The thought that this dread disease, which had caused the death of millions of her population and made unsightly and hideous millions more, was about to be banished from the earth, inspired fresh courage, renewed confidence and increased energy. It seemed to suggest to the thoughtful mind that the hidden forces in nature contained a remedy for much of

the physical and mental sufferings of humanity, and thus gave to science an impetus and a prestige which, under superstition and dogmatic teaching, she had never before enjoyed. And when in 1802 Jenner wished that he might shout his message to his co-worker in the New World rather than have it transmitted against wind and wave by the slow sailing craft, he little dreamed that he was one of a class of men who in less than a century would practically rid the world of its pestilential diseases, and through whose efforts, just one hundred years from then, the Christmas greetings of a Christmas morn like lightning would be flashed from shore to shore, as the signal of the surrender of one more of nature's mysterious forces to man's mentality.

As has already been intimated, with the introduction of vaccination the number of cases of variola and the mortality therefrom rapidly decreased; especially was this noticeable among infants and children who had been vaccinated. The mortality in the unvaccinated under five years of age was fifty per cent., while in the successfully vaccinated there was no mortality. "Even with the effect of raising a single vesicle, death from small-pox in childhood very seldom occurred." The mortality among adults dropped from three thousand to two hundred in every million of the population; this, too, in spite of the fact that vaccination in many parts of Europe was not obligatory, and that in many places there were then, as there are now, enough persons who escaped vaccination to keep alive the contagion and spread the disease. The protection afforded by recent vaccination was shown to be the same as when the individual had taken small-pox naturally, or it had been induced by inoculation. Cow-pox and small-pox were proven to be identical and it was considered that the system of a vaccinated person had already, in fact, passed through an attack of small-pox.

In the early period of vaccination there were no data by which it could be determined what proportion of persons were likely to take small-pox, who had already had the disease, or who had been successfully vaccinated. However, it was learned by inquiry that of 347 physicians who had been vaccinated, but

some of whom had only one or two marks, others indifferent cicatrices, 12.6 per cent. subsequently contracted variola, but only in a modified form. But of 57 physicians whose vaccinations showed three or more good cicatrices, only three and five-tenths per cent. had small pox. On the other hand, of 82 medical men, who had had small-pox, most of them by inoculation in infancy, 3.6 per cent. had contracted small-pox in later life. Jenner, in discussing this subject, said: "Duly and efficiently performed, vaccination will protect the constitution from subsequent attacks of small-pox, as much as that disease itself will. I never expected it would do more, and it will not, I believe, do less." Dr. Waterhouse, of the University, Cambridge, Mass., in 1802, made his first experiment on four of his own children and three of his domestics. "They passed regularly through the distemper. They soon after went into the licensed hospital of this neighborhood and were inoculated with the matter of small-pox, but without the least trait of the infection." The same test was applied by physicians in the Vaccine Institute in London, with the same result.

In the same year, in this country there was much spurious vaccination done, both by the laity, and by physicians, because of the matter being taken from the arms of those who had only suppurating sores instead of the true vaccine vesicle. This very nearly brought vaccination into disrepute, and had it not been for the determination of leading physicians, this great discovery might have been abandoned as a worthless procedure.

But, while the conscientious, progressive physician prevented this great calamity, there is no disguising the fact that vaccination did not in after years meet entirely the expectations of its early promotors, in that it did not always protect the individual against small-pox for the remainder of his life.

As early as 1828 it was found that during epidemics of variola many who had been vaccinated in childhood contracted the disease in a modified form. This was a trying time for those who had contended that a single operation gave life-time immunity, and the croakers began to decry vaccination. In Marseilles, there was a severe epidemic during this year, in

which 2,000 were attacked, who had been vaccinated. From 1831 to 1836 in the kingdom of Wurtemburg 955 persons were attacked by small-pox after vaccination, of whom 7.8 per cent. died. From this period the number of cases of small-pox in the vaccinated gradually increased, until in 1865, of the admissions to the London small-pox hospital, four-fifths had been vaccinated. During all these years the question of re-vaccination was being discussed. This increase in the number of admissions of vaccinated persons, Dr. Marson says, was due to the fact that three-fourths of the cases had taken the vaccination in but one or two places, and among these the largest proportionate mortality had fallen. Many of these were vaccinated in the country and did not present all the evidences of a thorough vaccination. Out of five thousand cases admitted to the hospital, over two thousand or nearly one-half showed indifferent cicatrices.

The importance of a thorough vaccination in childhood is emphasized in a tabulated statement by Dr. Marson, in which he shows that of one thousand cases among children the proportion of those who took small-pox in a modified form after vaccination, was as one to seven in favor of those who had four vaccine scars instead of one cicatrix.

It is fair to state, however, that Dr. Foster, president of the board of health of Augusta, Georgia, does not agree with Dr. Marson, and says that in his section vaccine is introduced by only one puncture and that he has never seen a fatal case of variola in a person who had been vaccinated within ten years prior to the attack of small-pox. However, it would seem that we can hardly afford to ignore the statements of Dr. Marson as to the increased protection afforded by four cicatrices. The protective power of vaccination was put to a much severer test in his day than it is in ours, the chance of taking small-pox being many times greater. Then the vaccinated were often allowed to sleep with a small-pox patient, the strict quarantine practiced by the American public of to-day not being observed by the European of half a century ago.

It is contended, too, by this eminent authority, after many years of observation, that anything short of a thorough vac-

cination in childhood exposes the person in adult life to an attack of modified small-pox, notwithstanding the fact that he may not take vaccine a second time. This seems the more plausible when we remember the fatality of small-pox when taken through the medium of the respiratory mucous membrane, compared to the almost non-fatal disease of inoculated small-pox.

The fact that most of the cases of small-pox in this vicinity have been in the vaccinated and unvaccinated Americans, while the Hun, Slav and Pole, with four or five well pitted scars, many of whom have not been successfully vaccinated since childhood, have escaped, would seem to corroborate the statements of this very close observer and statistician.

There is one point in this connection upon which we will all agree, and that is that there should be sufficient vaccine virus introduced to exhaust the susceptibility of the patient, and that as this susceptibility varies in different individuals, it is safer to introduce too much than too little.

In this country for the past twenty years vaccine virus direct from the heifer has been used almost exclusively, and the local effect produced by it is known to be much more severe than when humanized virus is employed. The vaccine vesicles, as vaccination is now generally practiced, are so large and the sloughing often so extensive that most physicians would hesitate to produce more than two vesicles. Whether the large vesicles and the increased potency of the fresh cow virus will make up for the difference in the number of vesicles produced remains to be proven.

After examining statistics and studying the arguments of those who believe the protective power of humanized virus to be equal, if not superior to virus fresh from the cow, my conclusions decidedly favor the latter as being the more efficient. In other words, I believe that vaccination with cow virus, as practiced in this country for the past twenty years, will measure up to the highest standard of vaccination during any period of its history. The care taken in selecting the animal and in collecting and preserving of the virus as now practiced will give

us fewer indifferent marks and consequently increased protection.

But, notwithstanding all that was said by the profession regarding the importance of a first thorough vaccination and the immunity derived therefrom, the necessity for re-vaccination of adults, after considerable discussion, was conceded, and the results obtained were scarcely less brilliant than those which followed infant vaccination up to the age of puberty. Among over fourteen thousand re-vaccinated German soldiers, after five years, there occurred only one case of varioloid, and of 30,000 re-vaccinated persons in civil practice there occurred only two cases of varioloid, though during these years small-pox had prevailed in 344 localities, producing 1,674 cases of modified or unmodified small-pox among the not re-vaccinated. Dr. Marson, of the London small-pox hospital, says that during thirty-two years residence there he never knew a nurse, servant or anyone employed for months about the hospital to take small-pox in any form, who had been successfully re-vaccinated.

In a recent article by Dr. Welch of Philadelphia, he says, in respect to an outbreak of small-pox in that city about one year ago, "that no person who had been recently successfully vaccinated was admitted to the hospital with small-pox." About 500,000 persons had been vaccinated, none of whom found their way to the hospital, though the admission numbered 2,000. Children brought to the hospital were vaccinated and then allowed to eat and sleep in the infected atmosphere for several weeks without taking the disease. Dr. Welch adds, "I have yet to see a single unvaccinated child escape under similar conditions of exposure." In one family, consisting of father, mother and six children, the parents and four of the children not vaccinated, contracted the disease. The two older ones, who had arrived at the school age, one two years and the other four years previously, were then vaccinated, and although they remained in the infected atmosphere of the small-pox hospital for weeks, returned to their homes without showing any of the symptoms of the disease.

"Since the epidemic began, 125 persons, including physicians, nurses, ward-maids, laundresses, have been continuously exposed to small-pox in the hospital and not one has fallen with the disease. Each of these persons was carefully vaccinated, even though the vaccination of infancy and subsequent re-vaccination showed evidence of having been successful. "With this care," he says, "I have never seen a resident physican or nurse take small-pox. I do not hesitate to say that after a recent successful vaccination an individual can dwell in an atmosphere, surcharged with the most virulent variolous poison, and live and breathe and eat and sleep there in safety."

But, says one, what of those who will not take vaccination a second time, or who have never been successfully vaccinated?

There are probably very few children or adults whose primary vaccinations will not result successfully if the operation is often performed, the chance of failure being oftenest due to inert virus or temporary insusceptibility. Dr. Holt records a case of a child who was vaccinated successfully after fourteen previous failures. As inoculation is performed during an epidemic of small-pox, or when a large number is to be vaccinated in a few hours, the percentage of failures are from three to five per cent. With a little care, about all of these may be successfully vaccinated. With very few exceptions, in my experience, the cases of non-taking primary vaccination have shown some evidence of a previous successful vaccination.

Dr. Cory, in his report for 1886, found that of over five thousand primary vaccinations with calf lymph, the result was successful in every one, and in all but twenty-five the vaccination succeeded at the first attempt. The number of insertions was five in each individual. Of 4,688 persons vaccinated 4,212 "took" in five places, 238 in four places, 92 in three places, 51 in two, 37 in one and 17 were unsuccessful in the first trial. Dr. Cory's success rate was 96.5 per cent.

Reports from other foreign physicians show as low as 73 per cent. of successful primary vaccinations. Of successful re-vaccinations some of the German reports show as high as 87 per cent., and one Berlin authority claims as high as 91.3 of success-

ful re-vaccinations. To be frank, these figures are away beyond what my own experience would furnish. Of course, the length of time between the primary and the re-vaccination would influence the result. The importance of a successful re-vaccination between the ages of twelve and twenty-five years should not be overlooked, this being the period of greatest susceptibility to small-pox. During these years frequent inoculations should be performed. The susceptibility to vaccine or small-pox varies from week to week in these cases, and to assume that they are immune to small-pox after one or two unsuccessful attempts at successful re-vaccination is, to say the least, unjustifiable and unscientific. Experience has proven that anyone may take small-pox in a modified form any time after puberty, unless a successful re-vaccination has been obtained. I have succeeded in producing a typical re-vaccination in persons, six months following three successive failures, with virus that I have good reasons for believing was potent. Theory, as well as observation, would seem to suggest the inference that the introduction of the vaccine virus into the system, even though the local or constitutional symptoms are not apparent, will give increased immunity. But to rely on this to the exclusion of frequently repeated inoculations might be a dangerous experiment.

Immunity, following an attack of small-pox, is explained upon the theory that the cellular activity excited by the presence of this poison in the system, not only rids it of the poison itself, but at the same time produces so much more of the defensive product as to render the person immune in most instances for the remainder of his life.

If this theory be correct, then the introduction of sufficient vaccine virus—this being small-pox virus in a modified form—to excite cellular activity, should increase the resisting power to variola, and give prolonged immunity, notwithstanding no local or constitutional symptoms follow. I believe that the immunity of those who have been often exposed to the contagion of variola, after frequent unsuccessful attempts at vaccination, can be explained by this theory. Of the 500,000 vac-

cinated in Philadelphia, Dr. Welsh does not give the number of successful re-vaccinations, but judging from the experience of local physicians, not more than twenty-five per cent. were successful, and yet, Dr. Welsh says not one of these found his way to the small-pox hospital. This certainly is strong presumptive evidence in favor of protection without apparent successful vaccination. Of course, temporary insusceptibility must always be reckoned with in such cases.

During the prevelance of small-pox my advice to persons who have not been successfully vaccinated since childhood is: Unless a successful result is obtained, be vaccinated every two weeks while the danger lasts. My reasons for this are: First, the virus may be inert; second, temporary insusceptibility may be present; third, the small-pox virus when taken into the system through the respiratory mucous membrane is so much more virulent than when introduced by inoculation, that there is danger of taking the disease in a mild form, even though the system seems to be immune to vaccination. Frequent vaccinations, although no apparent effect is produced, will, I believe, prevent this, or at least place us on the safe side. If we can in this way exhaust the susceptibility to vaccine, small-pox cannot occur except under a renewal of such susceptibility.

I am indebted to Dr. Edwards of Edwardsville and Dr. McKee of Plymouth, for tabulated statements, of which the following is a summar: Of 132 cases treated by Dr. Edwards, five had small-pox. All of those recovered. Of 52, from 25 to 50 years of age, twenty-nine were not vaccinated, eight of whom died; twenty-one were vaccinated in childhood, and these recovered. Of 30, from 15 to 25 years of age, 12 had not been vaccinated, two of whom died; four had been vaccinated in childhood, these recovered; four were vaccinated at periods of from two to fifteen days before small-pox appeared and all recovered. Of 14, from 10 to 15 years of age, two were not vaccinated, but recovered, twelve were vaccinated at periods varying from five to thirty days before being taken by small-pox and all recovered. Of 35, from 1 to 10 years of age, sixteen were not vaccinated, of whom five died; nineteen were

vaccinated at periods varying from eight to sixty days prior to attack, one of whom died. Of the whole number reported, you will notice that of those who died, none had ever been vaccinated, except one child, eight days previously, and of course was not protected. None of those taken ill of the disease had ever been successfully re-vaccinated in adult life. Thirty-five were vaccinated many days after exposure in infected homes, but took the disease at periods varying from five to thirty days following vaccination, as follows: 1 in 34 days, 3 in 30 days, 3 in 26 days, 4 in 20 days, 3 in 18 days, 2 in 16 days, 1 in 15 days, 2 in 14 days. The remainder were vaccinated within the incubating stage of small-pox and were not supposed to be protected by vaccination, but out of the nineteen just cited, all should have been protected, and there would seem to be but one explanation and that is: the susceptibility to vaccine was not exhausted by the operation. If it was, then recent successful vaccination does not give complete immunity from small-pox. The former, in my opinion, is the correct conclusion.

Of 76 families infected, 463 persons were exposed to the infection, 183 took the disease and 280 escaped. Some of these who took the disease had never been vaccinated, and none had been successfully re-vaccinated until after exposure to infection. Out of 16 confined in one infected house only one escaped, and he was a Polander who had been several times vaccinated in his native country. Thirteen Polanders were confined in infected houses and all but one escaped the infection. They were vaccinated in infancy in their own country, but not during their period of quarantine.

One nurse, a medical student, had never been successfully vaccinated. He served as a nurse in the hospital for two months and failed to take the diesase, even by inoculation with the fresh virus of small-pox. Dr. Edwards was vaccinated in childhood and had good marks. During his first few weeks of attendance upon small-pox patients he was re-vaccinated five times, but without effect. He was about to give up the attempt at successful re-vaccination, believing that he was

immune. Dr. McKee vaccinated him on the arm and leg and got a typical vaccine vesicle in each instance. This was in all probability a case of temporary insusceptibility and had he not been vaccinated might, under favorable conditions, have taken small-pox.

Dr. McKee, who had attended a large number of small-pox patients had not been successfully vaccinated since childhood. Many attempts had been made, but none within six months of his taking small-pox. He, however, took the disease in a mild form. Had he continued vaccination at short intervals up to this time, and thus exhausted his susceptibility to vaccine, he, in all probability, would have escaped the disease even by inoculation. I believe, too, that it is fair to assume that he might have been successfully vaccinated at the time he took small-pox, by inoculation.

This brings us to the consideration of the technique of vaccination. Perhaps the greatest objection to vaccination on the part of the laity comes from the dread of the very sore arm which it sometimes produces. That this may be avoided by the use of a puncturing instrument is the chief object of my paper.

By a severe sore arm, I mean the sloughing sore which not infrequently follows vaccination by scarification. They are frequently as large as a nickel and I have seen several as large as a half dollar. These excavated sores, as you know, are sometimes a week in healing and all the time, unless an antiseptic dressing is applied and frequently changed, there is danger of infection from any infectious germs that the clothing may contain or that may be floating in the atmosphere.

It is true that nature sets up a barrier against infection in most of these cases, but the instances in which tetanus has followed vaccination emphasize the importance of adopting any method by which this condition may be eliminated. Vaccination by puncture is perhaps as nearly ideal as it is possible to make this operation, while from two to five per cent. will represent the failures of first trials in primary vaccinations. A tube of virus is placed on the arm and the point of the puncturing instrument is dipped into it each time a puncture is made.

The excess of virus left on the surface is then rubbed into the puncture. In a few minutes it is dry and the patient may leave the office. By this procedure the virus cannot be rubbed off and no dressing at this time is necessary. The puncture is made with a blunt cup-shaped instrument and no blood is drawn, thus avoiding the chief danger of transmitting syphilis. After a few minutes the puncture closes, and instead of an abraded, absorbing surface, such as we have after scarification, there is only a small puncture, so nearly closed as to lessen greatly the danger of the absorption of any infectious material.

The number of vesicles usually produced is four. Any number of punctures necessary to exhaust the susceptibility of the patient may be made without any local effect more than is natural to the developing and drying of the vescicles. As the pock appears and the vesicle forms, there is no destruction of skin surrounding it. The pock goes through its stages, dries, and falls off, leaving, not an ugly scar, but only a few pits to mark the site of the inoculation.

Perhaps you may regard my statements as too positive. However, they are substantiated by at least one thousand vaccinations by this method, without, so far as we have knowledge, a single sloughing sore. Dr. Weida and Dr. Marvin have been my associates in this work and will, I believe, corroborate this statement.

This instrument is not new. Its introduction to the profession dates back over twenty years. Dr. Weida first called my attention to its advantages and he learned its use from his preceptor. Soon after it was brought into notice, the vaccine points were used almost exclusively, which, of course, precluded the use of this method of vaccination. Those who formerly used this instrument laid it aside for the ivory points. The plates were destroyed, and, so far as I know, Dr. Knapp, Dr. Weida and myself are the only physicians of this locality who possess an instrument of this kind. Codman & Shurtliff of Boston are the makers, but in reply to a letter from Dr. Marvin, say the plates have been lost, and unless a demand is

created it would not pay them to make new plates. The instrument, I think, might be improved upon. One objection urged against instruments of this kind is that they are difficult to sterilize. But the chances of infection by this method is so slight, compared to vaccination by scarification, and its results are so overwhelmingly in the favor of this instrument, notwithstanding the theoretical objections to it, that I cannot refrain from saying that I believe the time will come when vaccination by puncture will receive the unqualified and universal endorsement of the profession.

Recent bacteriological investigation by Schamberg of Philadelphia shows that "the streptococcus and the staphylococcus are the principal bacteria found in the variolous and vaccine pustules and is the result not of secondary infection, but in all probability of the action of the micro-organism which produces the disease," This would account for the slough surrounding the vaccine sore after scarification. The resisting power of the skin is destroyed by scarification, which leaves the surface surrounding the vesicle open to attack by the streptococcus contained in the pustule. So it makes no difference what kind of a dressing is applied, the skin will become infected from the vesicle after scarification unless something is done to destroy the pus-producing organism which it contains.

Dr. Lowe of Edinburgh, in a recent article, asks the question: "Is the suppuration and its attendant blood poisoning a necessary part of vaccination?" To this he gives an emphatic negative reply. He then says: "The insertion of vaccine lymph into the system produces certain changes of which the outcome is the vaccine vesicle. When this is fully formed and filled with the colorless liquid, the process, I take it, is complete, and it is difficult to believe that the subsequent change of this liquid into pus and the absorption of septic matter can add anything to the protective influence of the vaccine."

In order to prevent this pus formation he applied pure carbolic acid to the vescicle on the seventh day, the surrounding skin having been previously oild with salad oil. In a few sec-

onds tepid water is applied to the spot and an antiseptic dressing applied. The scab separates without suppuration and leaves no cicatrix.

To the objection that the influence of vaccination may have been diminished by the treatment, he says "One might as well contend that small-pox treated as it has been by me in the same way, was no longer small-pox, but some milder and less protective malady."

One objection to this treatment is that there is no cicatrix and consequently no evidence of vaccination.

I might say more upon this topic, but as I have some cases of vaccination by puncture to show you, I will only add that if I have taken up too much of your time in the discussion of what you may regard as a thread-bare subject, I trust you will pardon the intrusion.

DISCUSSION.

DR. EDWARDS:—I want to mention one case that did not take. The case was a nurse 22 years of age—never had been successfully vaccinated. He had been with the disease three months at a time, been vaccinated many times, but not successfully. I remember one time he took pus from a———— from a patient suffering from..... trouble. He did not take it. I find that patients who have not been vaccinated have much more severe attacks of the disease than others. I recall one case, a young man who had been vaccinated six different times. His mother had varioloid mildly. He took down with the disease in twelve days—during this time I vaccinated him twice, but neither time successfully. He took confluent small-pox and died of the disease.

Another family, where there was one case and three people present—none of them vaccinated. One patient had confluent small-pox. After sending a nurse in, three days later, I found there was one young lady not vaccinated. She allowed me to vaccinate her, although I had some trouble in doing so. She took the disease in twelve days, confluent small-pox, and died of septic trouble. Her mother died in three days from the disease—she had not been vaccinated.

Dr. Faulds said they had been vaccinated sixty days previous to this; this is, however, a mistake. The patient was two

months old when vaccinated, and had varioloid and recovered. This one person who was referred to by the essayist as being one of sixteen people present, and all were vaccinated and took down with the disease in different forms—he was a man 45 years of age, vaccinated in childhood, and later in life thirteen years previous to being quarantined, his wife died and two children died in the same house.

I think that where Dr. Faulds speaks of re-vaccination every two weeks, it is necessary, where we find a case of small-pox and those present have come in contact with the patient, it is necessary to take some other method. Dr. T.—..... has offered a method of vaccination and re-vaccination in three days. If the first takes, the second one will only take in the same way and the wound is of not much consequence.

Dr. Welsh's cases in the patients admitted to the Hospital. None were admitted who had been vaccinated ten years previous.

DR. WEAVER:—I remember when a child, going to the farm-house where a physician came eight or ten miles to vaccinate all the children in the community. I have vaccinated myself many times since, always without any results. I have attended about thirty cases of small-pox, in 1881 and 1882, but never had any fear of it, and I think I am perfectly immune.

DR. F. L. MCKEE:—I think the subject has been very thoroughly covered. I wish to correct the statement of Dr. Faulds, in reference to my case. I had been vaccinated when three months of age—my father was then treating small-pox. At the Small-pox Hospital in Plymouth, I vaccinated and re-vaccinated myself nine times last winter. I had broken out with varioloid, but not (with) inoculation. The ..... was in the Mrs. Davies, who had diabetes.

NASAL OBSTRUCTION.

BY DR. EDWARD R. RODERICK, WILKES-BARRE, PA.

READ MARCH 4, 1903.

By first reminding you of the work the normal nose was intended to do, I desire to call your attention to the various conditions that arise from a nose that is not normal. A normal nose has free passages, and healthy mucous membrane lining it. To filter, warm and moisten the inspired air and to be used as an organ of smell is the original purpose. As nasal obstruction in itself is not usually a dangerous condition, but rather a most uncomfortable and unhealthy one, it does not receive much attention from either the victims or their family doctors. The reason for this neglect is, that most cases of obstruction have their start in infancy, and keep on increasing until finally we have more or less constant obstruction of one or both nostrils. Never having experienced the comfort of breathing through the nose without any special effort they keep on blowing and picking the abused nose until they have the good fortune to fall in the hands of a competent rhinologist.

The diseases, pathological and anatomical changes due to nasal obstruction demand that a more careful consideration be given it as one of the underlying causes of the conditions I shall mention. The family physician should impress on parents the importance of keeping their children's nasal passages in a healthy, clean condition. In nasal breathing the hairs at the anterior openings act as a filter and keep out many germs that otherwise would land directly in the pharynx and larynx.

In looking over your cases you will find that mouth breathers are the persons that make a doctor's practice grow. They are predisposed to pneumonia, bronchitis, croup, tonsilitis, with resulting large tonsils, ear-ache, and running ears, and laryngeal diphtheria, which is more serious than nasal diphtheria. The changes in the facial anatomy resulting from a constant obstruction from childhood up, consists of a narrowing of the anterior nares due to collapse of the alae of the nose, from

non-use or excessive force in inspiration. The eyes are heavy, dull and watery and the voice is thick and muffled.

Beginning at infancy the most frequent causes of nasal obstruction are adenoids hanging in front of the posterior nares, purulent catarrh and foreign bodies. Removing the adenoids, extracting the foreign bodies and cleansing the nose as often as necessary prevents much future trouble as time advances. We have enlarged turbinates, spurs, and deflections of the septum, polypi, single and multiple. We have also an interchangeable obstruction, which is due to the blood rushing into the dilated vessels on the side that happens to be the lowest at the time. Another cause is the drying of the discharge from the diseased membrane, which form crusts. The conditions caused by an enlarged inferior turbinate are, inability to breathe freely through, occlusion of tear duct from swelling of anterior end and congestion of the Eustachian tube from swelling of the posterior end of this turbinate. The inferior turbinate is reduced in size by cauterization with either acid or electric cautery. The middle turbinate becomes the most distended and enlarged of the turbinate bones. It very seldom shows a true hypertrophy but rather is the receptacle for the secretion of the ethmoid cells, of which it is a combination. In the enlarged soggy middle turbinate bone we find the hidden cause of many chronic troubles. It blocks the openings of the frontal sinus and antrum of Highmore, resulting in severe neuralgias on account of the distension caused by the retained secretions. It also prevents free access to these cavities, necessary in their treatment. The enlarged middle turbinate, on account of the pressure on the septum and walls of the nose, causes neuralgia to run to the tip. It also causes the nose to widen over the bridge. People with large middle turbinate complain of dizziness, loss of memory, head noises, dull headache and lack of concentration. These conditions are supposed to result from lack of ventilation of the brain, due to the air being prevented from reaching the cribiform openings. The middle turbinate is reduced by cutting off part of the end allowing the cells to empty their contents and contract.

A turbinate undergoing polypoid degeneration is productive of polypi. The large single polypi cause more discomfort than the grape-like multiple variety. A large polypi, with a large pedicle acts as a valve in expiration or in blowing the nose. I have had three cases of single large polypi, which were too large to be drawn forward through the nose, but had to be pushed back in the mouth. Snaring polyps, without cutting away the base merely leaves a place for a new crop in the future.

Large spurs are the sources of many nose bleeds and also of reflex conditions, such as Asthma. A deflected septum was generally supposed to be the result of a blow or fall, but it has been shown to result also from the septum growing larger than the rest of the nose, so was compelled to shorten itself by bending in some direction. Deflections are corrected by cutting, filing or crushing the cartilage to get rid of its elasticity and by means of plugs or splints keep the parts in a straight position until firmly united.

In conclusion let me say that you cannot find better satisfied patients than those that have their nasal obstruction relieved and also because, when thoroughly performed it is as permanent a result as is generally found in medicine.

CASE REPORTED

BY DR. G. T. MATLACK, WILKES-BARRE, PA.

READ MARCH 4, 1903.

The case which I wish to report is one of typhoid fever, accompanied with a profuse general eruption which appeared over the entire surface of the body. The infrequency of such profuse eruption in this disease and the question that might arise as to a differental diagnosis, makes the case sufficiently interesting to report.

Miss J. W., age 20, was admitted to the Wilkes-Barre City Hospital, February 15, 1903, with the following history of the present disease. Patient has been living in Ithaca, New

York, during the recent typhoid epidemic. On the second of February complained of pain in back of neck, back and shoulders, and felt feverish during the evenings. No diarrhoea or nose bleed; more or less headache and dizziness. This has grown worse until patient had to go to bed on February 12th, feeling miserable. Was admitted to Hospital with high temperature, vomiting, pain in head and limbs. Physical examination—chest and head negative. Two rose-colored spots on front of abdomen disappearing on pressure. Spleen not enlarged. Slight tenderness on pressure in right iliac fossa.

Day after admission many new rose spots appeared on abdomen, chest and back; the face and extremities soon becoming involved. The face being flushed a dark red, with greatly congested conjunctivae.

Dr. Charles V. Ingle, the medical resident, consented to count the spots and he says the actual count was 1390 appearing on the body at one time, rose-colored and disappearing on pressure. Spots are in groups and in some places coalesce, six or seven touching, still disappearing on pressure. Exclusive of these, there were numerous petecheal spots scattered over the body that would not disappear on pressure.

The rash remained on the body full for five days when they gradually faded, being replaced with new ones, but few in number.

The Widal reaction remained negative until the 19th inst., four days after admission, when it was positive. Diazo-reaction of urine positive on admission. Had also on admission a leucocytosis of 13,500.

This case is interesting as to the question of differential diagnosis that might arise under the most favorable conditions. A profuse eruption, with petechae, flushed face and congested eye with vomiting, are symptoms that could be confounded with the symptoms of typhus fever. Murchison reports two cases of typhoid fever in the 20th Century Practice, in which the profuse eruption so strongly resembled that of typhus fever that the diagnosis remained doubtful for two or three days,

and he also says that in one of these cases he counted a thousand spots at one time.

Osler says in his work, "I have seen Murchison himself in doubt, and more than once I have known the diagnosis between typhus and typhoid to be deferred until the sectio Cadaveris." The Widal reaction and blood cultures, he says, are important aids, but in sporadic cases the diagnosis is sometimes extremely difficult.

This case has proven to be a most severe case of typhoid fever and at this time is very critically ill.

TUBERCULOSIS OF THE HIP JOINT.

SOME REMARKS ON DIAGNOSIS AND TREATMENT OF EARLY CASES IN CHILDREN.

BY DR. SARAH D. WYCKOFF, WILKES-BARRE, PA.

READ MARCH 18, 1903.

After a study of the pain and limp present the deformity is considered. The most obvious element is flexion; obvious at the knee, the hip flexion is given away by the accentuation of the normal lumbar curve. This is demonstrated by the impossibility of bringing both the lumbar spine and the popliteal space to touch the table at the same time, the patient lying flat on his back. The prominence of the lumbar curve is an index to the amount of flexion present, though the actual flexion may be made visible if the thigh is slowly lifted until the lumbar spine touches the table normally.

Abduction is recognized by a tilting of the pelvis downwards on the diseased side, making the leg appear longer; outward rotation is also present. In adduction the converse is true. The degree of abduction or adduction may be realized by noting the angle formed between the thigh of the diseased leg and a line connecting the anterior superior iliac spines.

An understanding of the exact nature of the deformity present is desirable. It is also important to find whether the short-

ening present is only apparent, due to position, or real, due to changes in the bone. To do this, measurements are taken and studied in connection with the position forced by muscular spasm, and with the normal leg.

The distance between the lower edges of the inner malleoli is called the apparent lengthening or shortening. The difference between the distances from the anterior superior spines to the inner malleoli of the two sides is called the measured lengthening or shortening. The difference between the measurements from trochanter to the iliac crest is the real shortening. This latter measurement can be relied upon, however, only when the pelvis is straight, in the absence of abduction or adduction.

If the diseased leg be held abducted by the muscular spasm, after the parallelism had been restored by tilting of the pelvis, it will appear longer and measure shorter than the sound one, and the reverse is true of the adducted position. In either case there may or may not be real shortening present. It is evident then, that appearances and measurements cannot be relied upon to tell the true nature of the deformity, without further study.

Dr. Halstead, in an article upon "The effects of abduction and adduction on the length of the limb in fractures of the neck of the femur," shows that this is true because the head of the femur, the anterior superior iliac spines and the malleoli are not in one line, the acetabulum being "set in." This article may be found in the *New York Medical Journal,* March 22, 1884.

In adduction, if there be no real shortening, there will always be measured lengthening and apparent shortening of an amount normal for the degree of abduction present. This is determined by examining a healthy leg placed in the same degree of adduction. If there is a little real shortening there will be less measured lengthening and more apparent shortening than normal for the corresponding degree of adduction. If real shortening be more marked the measured lengthening will disappear, or if the shortening is great the diseased leg will

measure less than the sound and the apparent shortening will be excessive.

In the abducted position, if there is no real shortening, the measured shortening and the apparent lengthening are normal for the degree of abduction present. If a little real shortening, the measured shortening will be more and the apparent lengthening less; if the real shortening be great the measured shortening is excessive, and, unless the abduction is very marked, the legs are apparently the same length or there is apparent shortening.

These facts are also of use in cases of suspected fracture of the femur, where it is not desirable to break up an impaction to get crepitus to establish a positive diagnosis.

The trochanter is usually sensitive to pressure, and may be difficult to outline because of thickening. This is due to an expansion of the bone spaces with replacement of their normal contents by fat, a condition sometimes called lipomacie. This is found in the neighborhood of tuberculous bone and returns to the normal when the tuberculosis disappears.

When testing the passive motion, show the child how to let go of himself, and, before you begin, see that he does relax completely until the leg feels heavy and limp on your hands. Make the movements very gently. Any rough, forceful act may fail altogether to elicit the response and the traumatism will do harm to the joint.

Test flexion, extension, abduction, adduction, internal and external rotation. Make each movement first on the sound leg and note the difference in the amount of pressure necessary to accomplish the same movement to the same degree on the other side, where the limit of motion possible without force will, of course, be reached sooner.

Now flex the leg and then raise the thigh slowly, at a certain point there will be a gentle, involuntary jerking felt, and perhaps seen. This "muscle spasm" is different from the constant protective spasm of the muscles; it is one of the earliest signs of the disease and one of the last to disappear in recovery.

No other disease usually mentioned under differential diagnosis gives just this picture. If there is any doubt, however, we have in tuberculin a safe and sure test. Pott's disease, which would, of course, respond to tuberculin also, could be distinguished by the characteristic signs of rigidity of the spine, and also by the fact that motion is limited only in extension.

The constitutional treatment is simple. Aside from special indications it is fresh air and nutritious food. It is always best to give specific directions about these matters, they are more likely to be carried out than generalities.

Local treatment is better mechanical than operative in early cases in children because the operation inevitably interferes with the growth of the leg and causes great shortening.

The patient is put to bed on a gas-pipe frame, with his leg in Buck's extension. The plasters are best of moleskin. The side straps are applied well up on the thigh, making the pull from the hip more than the knee. The cross pieces interfere less with the circulation if put on diagonally. If flexion is very marked an inclined plane may be used which is gradually lowered and finally dispensed with.

Adduction requires careful attention, because if the leg heals in the adducted position the child will be lame. The pulley is placed so the diseased leg is drawn slightly outward. If adduction is marked or persistent traction is made by a broad band placed around the child's hips and weighted over the opposite side of the bed. Outward or inward rotation is corrected by a gentle counter pull attached over the tibial crest and weighted over the side of the bed.

When the patient is adjusted correctly, the troubles begin; it takes constant patience and vigilance to keep him right. On the whole it is wise to look the patient over once a week, at least, to put things in order. The family and patient can do much if they will co-operate.

It is well not to be in a hurry to get the child out of bed; but when all pain is relieved and deformity, if slight at first, is entirely corrected, or if it has been marked, is much lessened, it is safe to put on a brace and let him up.

The Taylor splint is usually considered the best. The patient is measured and the brace fitted by the doctor himself. Some advertisers offer to relieve the doctor of this duty or to give him full instructions. A druggist might just as well advertise full instructions to the doctor how to write his prescription, and a doctor, after making the diagnosis, might just as properly send a patient to the druggist for treatment as an orthopedic case to the instrument maker. Neither druggist nor instrument maker knows anything of disease.

These measurements usually suffice:—Take a point A. directly over the trochanter on the sick side, on a level with the anterior superior spines. Then take,

1. Circumference of the pelvis at A.
2. From A. to the opposite A. S. S.—anterior arm.
3. From A. to the mid point between the A. S. S. and the posterior superior spine of the opposite side—posterior arm.
4. From A. to 2½ inches below sole of foot.
5. Circumference of thigh at middle.
6. Circumference of calf at middle.

The lower part of the upright is made in two pieces so that the length is adjustable. The buckles for the perineal straps are placed well out, so when the adhesive straps are tightened at the bottom it will not slip up and force the patient to walk on his foot. When possible, it is better to fit the brace to the patient while it is still in the rough. The sole of the shoe of the well foot is raised 2 1-2 inches. If the legs are of unequal apparent length the upright of the brace is adjusted so that when the patient is dressed the distance from iliac crests to bottom of brace and high sole are the same. The family and patient usually need constant reminder that the leg should be continuously on a stretch and that the foot should never touch the brace or the ground.

The joint between the upright and pelvic band wears loose quickly and needs renewal; in general the brace needs watching for repairs.

As a rule it is better for the patient to discard the brace at

night, and by buckling the plasters to the spreader straps sleep in his old extension.

The advantage of the splint is that it permits an out-of-door life, and this is emphasized to the family. If pain or spasm reappear or deformity increase, the child will have to go to bed again. If, however, he improve, the splint is worn until all muscle spasm has been absent for at least six months.

Then he goes about on crutches with the high shoe on the well foot and the sick leg swinging, for a few more months, being given massage and passive motion and allowed a little active motion. If the motion gradually increase, and no pain or spasm appear—good—a long and hard battle has been won.

THE CAUSES AND TREATMENT OF STUTTERING.

BY DR. C. R. GROSSER, WILKES-BARRE, PA.

READ MARCH 18, 1903.

Not having a very interesting case to report, I thought I would take up the subject of stuttering; causes and treatment as recommended by Drs. Gutzman, Kussmaul and other specialists in disturbances of speech. I have used these methods in four cases ranging from seven to thirteen years with excellent results.

Often the distinction is not made between stuttering and stammering. According to Kussmaul, individual sounds are difficult for the stammerer, but not for the stutterer—with the latter the syllabic combinations offering the greatest obstacles.

In stuttering a spasm accompanies the impeded utterance, but not so in stammering; and the greater nervous embarrassments underlie stuttering. Other differences are given by Kussmaul, but the one which is perhaps of most practical importance in making a differential diagnosis, is that stammering is very often accompanied by anomalies of the tongue, lips and articulating organs in general; while malformations,

defects, paralysis, etc., are rarely observed in connection with stuttering, except that you not rarely find adenoid growths in the pharynx. This, whilst not directly the cause of the defective speech, it seems to be the point which reflexly heightens the excitability of the nerves which lead to the spasmodic condition of which stuttering has its origin.

Normally, we talk during expiration. A stutterer begins at the end of inspiration just before expiration is about to begin, and in that case the diaphragm instead of going up for expiration, sinks lower and lower in a forced inspiration; the stutterer then draws a hasty breath to begin to talk once more, when normally expiration should occur, but does not. This mechanism of the descent of the diaphragm, instead of its ascent, while many stutterers talk, has been demonstrated in X-Ray photography and may be plainly observed with the fluoroscope.

In advanced cases of stuttering, especially in young adults, they are usually dumb in the presence of strangers or under influence of the slightest excitement. They sweat and flush easily, showing an irritative condition of the sympathetic nervous system. When they project their tongues, a general tremor of the organ and a Fibriller tremor of the separate muscles of it may be observed. Knee jerks are lively and cutaneous reflexes are very active. There exists a general heightened irritative condition of the nervous system, having its highest expression in the spasmodic incoordination that occurs when they attempt to perform the rather complicated series of acts required for speech. In such cases, the prognosis as to a lasting cure is none too good, but can be distinctly improved by teaching them how to breathe properly. Many of the older writers claimed that stutterers are usually of a mental calibre lower than normal. This theory has since been discarded. The characteristic speech of the mentally deficient is a drawl, not a stutter.

TREATMENT:—Speaking requires a form of breathing different from what we ordinarily employ. It requires especially a lengthening of the expiration. Normally, expiration and in-

spiration, as we hear it in the sound sleeper, are about equal. For speaking, inspiration must be short and quick, and expiration prolonged. This quick inspiration cannot be accomplished through the nose. In speaking, we breathe in and out through the mouth so that the first thing is to have our patients open their mouths and keep them open during the breathing exercises. Some stutterers' expirations are not longer than three seconds. In order to do anything with them, they must be taught to expire slowly, and it is not a difficult task. There are certain delicate people of highly organized nervous systems, who become faint and giddy. In such cases the breathing exercises must be taken up gradually. If we wish to effectually and easily teach the process of breathing, it must be carried out under consciousness; for this costal breathing is necessary so that the patients may feel the rise and fall of the thorax walls.

Patient's attention must be directed to the rise and fall of the ribs, and especially taught to control the fall of the ribs, so as to have a constant supply of air at command. Younger children can be taught costal breathing by having them put their hands on your chest; note the rise and fall and ask them to imitate it. Costal breathing may be exaggerated and more air for expiration secured by certain movements of the arms, viz:— lifting the hands out straight from the body; palms down and continue the upwards movement until the *backs* of the hands touch above the head, for if only the palms are brought together above the head, then there will be no enlargement of the thorax, as there is a compensating muscular mechanism that acts on the scapula.

These simple exercises for breathing, taking care that the epiration is prolonged, need only take a few minutes each day in the beginning and gradually prolonged; they must be under control of the doctor, parents or friends, as well as themselves.

Next, have the patient break inspiration up into several divisions, breathing in successive whiffs, to exercise the respiratory muscles in stopping and starting; then we have them expire in the same way, in a number of puffs, being careful that

the breath is not held by the closure of the glottis but must be retained by the equilibrium of pressure between internal and external air.

Now comes the teaching of coordination in the use of the muscles necessary for vocalization. After the patient can prolong expiration, etc., he should breathe, first, audible, then whispering: and finally vocalization or "talk out loud" always with simple sounds and always during expiration.

SYMPOSIUM ON PULMONARY TUBERCULOSIS. AETIOLOGY AND SYMPTOMS.

BY DR. JOHN E. SCHEIFLY, EDWARDSVILLE, PA.

READ APRIL 1, 1903.

Pulmonary Tuberculosis is universally the most dreaded of all insidious diseases, and in fatality is so destructive among the human race as to rob millions each year, not only of their lives, but causes unknown suffering in many homes. It is the most prevalent disease of modern times, and common as it is, we have accomplished little in proportion to its virulency, until recently by our new method of treatment. Modern science has fully demonstrated its curability, the possibility of its prevention and entire eradication. It is not merciful in immunity, as no race is exempt. The Indian who lived in the most favorable climate, and who for years was thought to be immune, is even found among its ravages.

By Koch's demonstration and discovery of the tubercle bacillus in 1882, he revolutionized the former accepted views of its etiology. It is now conceded by all as the direct cause of Phthisis, but all medical men will not agree as to its mode of entrance and transmission into the body. This direct etiological factor of tuberculosis, the bacillus of Koch, needs no description, as the frequency of finding it makes it easily recognizable by all. Its channel of entrance into the body at the present time is receiving considerable attention and study by some of the

most eminent men. For years we have believed in its transmission from bovine tuberculosis, or animal tuberculosis, but of recent date men like Koch are attacking our former theory, and have demonstrated to the satisfaction of many that his theory is correct, and the disease, bovine tuberculosis, is not transmittable to man.

Heredity is a disputed factor. Many men believing in the direct transmission of the disease, while others say only a fertile soil is inherited, which lacks the usual resisting power to disease, making one more susceptible, and still others who compose the vast majority believe neither of the former theories correct, but think a child contracts it in infancy, by being so closely associated with the parent, or environment of the one afflicted, and then it remains latent until other conditions favor its growth.

All ages yield to the bacillus, but the most susceptible period is from twenty to twenty-five, the climatic conditions characterized by frequent rapid changes of temperature favor its development, for in the frigid and torrid zones it is less common. Localities which are damp, and in which malaria is always present, favor its growth, and localities which are warm and have much sunlight retard its growth, and its virulency is modified.

There are many predisposing factors and a common one is a diseased condition of the upper air passages. Perhaps the most powerful of these are bad nasal ventilation, such as may be caused by adenomate, nasal spurs, and other affections, which induce the patient to breathe through the mouth. Frequently recurring bronchial affections by lowering the vitality render one more susceptible and in combination with these catarrhal diseases, many trades and vocations which causes individuals to inhale minute particles of waste material, act as irritants; and this may be regarded as a predisposing factor.

Nourishment, which is both defective and insufficient, when associated with imperfect ventilation, privation, grief and overwork, are also conditions which favor the growth of the

bacillus. Physical deformity of the chest has long been regarded as predisposing. This bacillus of Koch is by far the most common of all germs that are continually living around us in the atmosphere, and remains common, due to the carelessness, negligence and ignorance of the afflicted. The sputum of one individual may be the poison of contamination to hundreds of others. The disposal of the sputum is certainly of as great importance as the treatment of tuberculosis, for by proper prophylactic measures the disease could be eliminated. The expectorations cast off by the sufferer with its millions of tubercle bacilli circulate in the atmosphere as pulverized dust and in this manner the polluted atmosphere finds lodgment for the bacillus in many respiratory tracts.

Where scrupulous scientific cleanliness is observed, as is carried on in our good Sanatariums, great care and attention being paid to the disinfection of sputum, little fear need be had by nurses or attendants, but the great danger comes from the stubborn and ignorant, whose regard for the feelings, sufferings and lives of others are little appreciated. My experience has been that too little attention is paid to the destruction of this sputum, and even physicians who should warn the patient and friends have been careless. I can recall a few families where the disease has thrived for years, and in my own opinion the people themselves are to blame, and the attending physician should come in for his share of the criticism.

There are four classes of employments which have a tendency to favor the development of tuberculosis; they are:—

1. Sedentary employments in ill-ventilated apartments, involving confinement in impure air, and other unwholesome conditions. This class of occupation is typified by the so-called sweat-shop for the manufacture of various articles of clothing.

2. Employments which necessitate the inhaling of irritating dust and noxious vapors, such as those of stone cutters, bleach-

ers, matchmakers, needlemakers, grinders, engravers, and miners.

3. Employments which involve the overuse or abuse of certain muscles. These are athletics, prize fighters, gymnastics, wrestlers, professional bicycle riders and ball players, a large proportion of whom die eventually of Phthisis.

4. Employments which involve undue familiarity with intoxicants. These are those connected with the manufacture and sale of wine, beer, and the various classes of alcoholics.

The principal measures of prevention now recommended are as follows:—

1. The proper disposal of tuberculosis sputum.

2. Notification to the "Board of Health" of all cases of tuberculosis.

3. Sanitaria and hospitals for consumptives, in sanitary dwellings.

4. The prevention of overcrowding, with defective ventilation.

5. Healthful occupations with healthful conditions for carrying them on.

6. Residences in rural districts, with favorable climatic conditions.

7. An abundance of sound and wholesome food.

8. Personal cleanliness and public hygiene, isolation and disinfection of consumptives.

The insidious nature of tuberculosis and the manner in which it manifests itself at times makes it rather difficult to diagnose, particularly in its extreme early stage, but after it once begins its work of destruction, it is easy to discover. It is primarily a local disease with constitutional manifestations. The victim many times is scarcely appreciably ill, yet he may lose flesh and strength continually. The greatest number of cases will admit no cough, still upon a close examination and rigid questioning you will get the patient to admit of a slight hack, which is worse in the early morning. During this stage the afflicted one is cheerful and has a bright

eye, which are by far the great deceiving symptoms to the laity. Following these deceptive symptoms, if great precautionary measures are not resorted to, the more typical and alarming symptoms present themselves in the form of rapid emaciation, intermittent fever, and cough with expectoration.

There are other specific premonitory symptoms, as gastric disturbances, a slight pallor, a peculiar duskiness, or sallowness, lassitude, vasomoter disturbances, perhaps cold hands and feet, or intermittently very hot extremities, shallow breathing, irregular chest pains, a dry cough, especially on deep inspiration, weakness, and at times a disinclination to work and in combination with all that unexplainable afternoon temperature. Tendency to sweats, not only nocturnal but following the slightest exertion. Change in temperament, irritability, introspection, sweating of the palms of the hands under excitement in women; palpitation of the heart and amenorrhea, have all been noted. Hoarseness probably due to a tubercular laryngitis is not infrequently an initial symptom. Hemorrhages caused by the erosion of blood vessels are common, and in severity depend upon the size of the vessel, many proving fatal.

The thermometer is, after all, the best instrument in the diagnosis of early Phthisis. If the temperature be taken every two hours after mid-day, a rise will usually be noted, proportionate to the progress of the disease. As the disease advances the severity of the symptoms become more pronounced. The pulse is always rapid and grows more feeble. The rise of evening temperature is more marked, and the typical hectic fever presents itself. Diarrhoea is a late symptom, usually caused by tuberculosis of the bowels.

The club finger first noted by Hippocrates is usually associated with either cardiac or pulmonary disease. Tubercular meningitis is often a late symptom, with it coming severe pain in the head, vomiting, and sometimes convulsions and coma.

THE DIAGNOSIS AND PROGNOSIS OF EARLY PULMONARY TUBERCULOSIS.

BY DR. CHARLES H. MINER, WILKES-BARRE, PA.
(Examiner for the White Haven Sanatorium)

READ APRIL 1, 1903.

Hippocrates wrote twenty centuries ago that pulmonary tuberculosis was a curable disease, provided that it was treated at a sufficiently early stage. We at the beginning of the twentieth century have also come to realize that for success in treatment it is not so much a specific which is needed, as an early recognition of the disease and intelligent co-operation of the patient with the physician in carrying out the simple hygienic and therapeutic measures which are everywhere readily attainable. Of the greatest importance, then, is an early diagnosis and timely treatment, in the hope of preventing the disease from reaching the stage in which the invalid is a source of danger and infection to his fellow-men.

In making a diagnosis, we must be on the lookout for the various modes of onset of the disease, and I will first illustrate with a few case histories, the most frequent methods of invasion.

I. Cases with symptoms of dyspepsia are very common. Epigastric distress, acid eructations, flatulency or vomiting may be so prominent as to overshadow the pulmonary disease. These are sometimes symptoms merely of a lowered nerve-tone, and at other times evidences of actual gastric involvement. In young girls there is also chloro-anaemia with loss of flesh and general debility associated with the dyspepsia. The following case illustrates this mode of onset in a marked degree:

Case I. Miss G. W., age 20, seamstress, admitted to the Wilkes-Barre City Hospital December 11th, 1902. Her family history is negative. The patient had measles when a child, but has been in good health since then, until four years ago, when the present trouble began with pains in the abdomen, followed by vomiting of undigested food and occasionally a little blood. The pain was located just above the navel, and

was always worse after taking food. Whisky was the only thing that would ease the pain. She had been treated for ulcer of the stomach for three and a half years, with practically no improvement. She did not complain of any cough or expectoration.

On examination, the patient was fairly well nourished, but appeared somewhat anaemic. There was tenderness in the epigastrium and over the lower ribs on the right side. The heart was normal. The examination of the chest was negative, except that we suspected slight impairment of the right apex. Examination of the stomach contents after a test breakfast showed that there was some excess of mucus present, and a diminished amount of free hydrochloric acid. Examination of the blood gave the haemeglobin reduced to 60 per cent., the red blood corpuscles to 3,230,000, with no increase in leucocytes. Her temperature ranged between 97 degrees in the morning and 99 degrees in the evening, and her pulse and respirations were normal. The urine was normal. A few days after her admission she expectorated a little mucous in which no tubercle bacilli could be found. She was treated for the gastric symptoms and the anaemia for six weeks without improvement, in fact she had lost eight pounds since her admission to the hospital. She then had an attack of tonsilitis with pleuritic pain in the right side. A week later she was given ten minims of Mulford's Tuberculin by hypodermic injection, when her temperature and pulse were normal. It was followed by the typical reaction for tuberculosis, and in seventeen hours her temperature was 103. Twenty-seven hours later the temperature was again normal, and in a few days she was discharged to go home and live in the open air.

After a month at home she was admitted to the White Haven Sanatorium for Consumptives, where she only remained one week, having objected to the discipline.

A week ago she appeared at my office, and I found on examination, signs of infiltration of the right apex, with diminution in the intensity of the respiratory murmur and cog-wheel breathing. She had gained twelve pounds.

In this case it was impossible for us to make a positive diagnosis without the use of the tuberculin. The same dose of tuberculin was given, as a control test, at the same time to another patient in the ward suffering with an hysterical monoplegia, and she gave absolutely no reaction. I have here the temperature charts of both cases to show.

II. A regularly intermittent fever with chills and sweats is not uncommon, and frequently leads to a mistaken initial diagnosis of malaria. My case to illustrate this onset is a male, age 25. Three years ago he slept for a time with a cousin who had consumption. A year later he had typhoid fever, and six months after his recovery he suffered from an attack of chills, fever and sweats, for which he was given large doses of quinine. He improved and went South, where he suffered from irritable stomach and a bad cough, associated with vomiting.

On examination last month he stated that he had lost twenty pounds in weight and a cavity was found in the upper lobe of the right lung. The patient is now at a private sanitarium at White Haven, and has improved slightly.

III. Pleurisy with effusion, or a dry pleurisy at one apex should always be regarded with suspicion, as they occur not infrequently as early symptoms followed at varying intervals by evidences of pulmonary involvment. Of ninety cases of pleurisy with effusion, the history of which was followed by H. I. Bowditch, one-third developed pulmonary tuberculosis.

In these cases it is probable that the pleurisy is not the cause of the lung involvment, but the inflammation of the pleura is secondary to a smouldering deposit in the lung which has never been suspected by the patient. The following history illustrates the first symptoms as a dry pleurisy at one apex.

Case III. Mrs. B. F. S., age 40. She has had pain in the left infra clavicular fossa for two years. She has an occasional cough with mucoid expectoration, in which, at one examination, no tubercule bacilli could be found. On physical examination the expansion was slightly less on the left side below

the cavicle, where there was a slight dullness on percussion with increased resistence. There was also diminution in the intensity of the respiratory murmur over the left apex anteriorily and posteriorily. The fluoroscope showed a slight shadcw at the left apex, with slight diminution of excursion of the diaphragm on the same side. A fly blister was applied to the apex, and life out of doors with a milk and raw egg diet ordered. The patient has gained fifteen pounds in weight and the pain has almost entirely disappeared. She contracted a cold last month and had night sweats a few times, but now is in excellent condition and her cough is much improved.

IV. The disease may be latent and the first positive symptom a hemorrhage from the lungs, following which the pulmonary symptoms may develop rapidly, or it may be months before the symptoms become well established.

In these cases the hemorrhages were for a long time considered the etiological factor in the causation of phthisis—as illustrated in the famous Hippocratic axiom, "From a spitting of blood there is a spitting of pus."

We now know that the appearance of haemoptysis is almost invariably an indication of existing disease.

The patient whose history I will now read had five hemorrhages before she suspected her real condition.

Case IV. Miss M. M. B., age 25, domestic. During the last four years she has had diphtheria, scarlet fever and measles. The present trouble began gradually two years ago with a dry, hacking cough, without expectoration; and loss of flesh and strength. She has pain in the back and chest. She had haemoptysis one month ago and has had four attacks since that time. A specialist has been treating her during the last six months for catarrh of the nasopharynx, and assured her that the nasal catarrh was responsible for the hemorrhages. She coughed mostly at night and suffers with marked dyspnoea at night and on exertion. Her digestion is good. She suffers from slight chills and perspires easily. Her present weight is 106, while formerly she weighed 132 pounds. On examination, she was markedly emaciated and there were

signs of infiltration at the left apex. The positive signs were dullness, with increased resistence on percussion and decided cog-wheel breathing with prolongation of the expiratory murmur. With the fluoroscope a distinct shadow could be seen at the left apex and a diminution of the excursion of the diaphragm on the left side.

V. In some instances tuberculous lymph glands of the neck or axilla antedates the pulmonary disease, which may be latent for months or years.

Case V. Miss E. M., age 19. The patient has a step sister under treatment at the White Haven Sanitarium, and she herself has had an enlarged gland about 1 1-2 inches in diameter over the left apex near the shoulder for six months. There are no positive physical signs of impairment of either apex. She has a cough, but has had no fever or sweats. She was ordered europhen inunctions, life out of doors with milk and raw egg diet. The enlarged gland was given eight treatments with the X-rays, and when last seen, it had been reduced to one-third its former size, and the patient had gained fifteen pounds in weight.

VI. The onset with symptoms of laryngitis, although rare, does occur occasionally, and is characterized by hoarseness, aphonia and troublesome cough. The most usual and characteristic signs of early laryngial tuberculosis are recurrent and persisting hyperemias, infiltrations and tumefactions of the larynx and pharynx.

VII. Most frequently the disease originates in a manner similar to the origin of ordinary bronchitis, and occurs in those who have catarrh of the naso-pharynx, or who have suffered from repeated and often neglected colds.

Case VI. Mrs. O. D., age 28. The patient worked for a year in an office with a consumptive, and two months later she had bronchitis. She coughs considerably night and day, but expectorates very little and has never spit up any blood. She is emaciated and has chills and night sweats about twice a week. Her chest expansion is only one inch. There are signs of infiltration and caseation at the left apex. I have here

a radiograph of her chest, which shows the shadow on the left side above and below the clavicle.

After we have questioned our patient and observed the mode of onset of his illness, we must next make a careful physical examination. What is found will depend largely on the system, experience and skill of the examiner. In an early case, he will find practically nothing or signs of disease which are just sufficiently marked to be recognizable.

The earliest physical signs are usually:

1. A slightly lessened movement in either the supra- or infra-clavicular regions. From a point behind the patient, looking over the shoulders, one can often better estimate the relative expansion of the apices.

2. Slight diminution in the intensity of the breath sounds with or without interrupted inspiration ("cogwheel breathing"). The latter, in which inspiration is made up of sharp, jerky puffs, signifies that the entrance of the air into the alveoli is impeded.

3. Fine crackling rales at the apex, heard only with or after a cough and at the end of inspiration.

4. A decrease in the excursion of the diaphragm on the affected side. This is discovered in radioscopy of the chest and has been emphasized by F. H. Williams, of Boston.

In cases where solidification is present, we may have the following additional signs, which are more easily recognized in the left apex.

1. Defective resonance on light percussion, with increased resistence. The comparison between the two sides should be made also when the breath is held after a full inspiration.

2. Slight increase in vocal and tactile fremitus.

3. Prolongation of expiratory murmur.

4. Abnormally loud transmission of heart sounds, especially under the clavicle.

5. Fine crackling rales.

If no rales are heard in the right apex with the above signs, our diagnosis is still in doubt, for the same signs are found at the apex of the right lung in health. Hence we must post-

pone our diagnosis until it is confirmed by the use of tuberculin, by the appearance of rales or by finding tubercle bacilli in the sputum.

The presence of a slight afternoon rise of temperature, if associated with either local or general disturbance, should arouse strong suspicion of tuberculosis.

Gradual but progressive loss of weight is another important symptom. So striking is the loss of flesh, that for ages the term phthisis or consumption had been applied almost exclusively to this disease.

The examination of the sputum for bacilli and elastic tissue, *repeated frequently*, in many cases is imperative and only when they are found the diagnosis set at rest. But it is also true that a positive diagnosis of tuberculosis can be made in some cases before bacilli can be found in the sputum. The absence of sputum is no better sign of the absence of phthisis than is the absence of cough. There is no characteristic form of sputum for pulmonary tuberculosis. Bacilli may occur in watery mucoid sputum as well as in the usual muco-purulent variety.

In tuberculin, we have a most valuable diagnostic aid, as shown in the history of the first case reported.

For some years Trudeau, Klebs and others have insisted upon the harmlessness of its use in the diagnosis of obscure cases. It is now used extensively at the Johns Hopkins Hospital. Dr. Flick does not use it at present, but he expects to employ it at the new Phipps Institute in Philadelphia. In adults a milligramme should first be given, and if this has no reaction, a larger dose of two or three milligrammes should be employed in two or three days. A positive reaction demands an elevation of temperature to 101 degrees Fahrenheit, and this rise usually occurs within twenty-four hours, but it may be delayed until thirty-six or even forty-eight hours. There is a margin of error in the tuberculin test, which is probably not less than ten per cent.

Radioscopy of the chest is often of great value. Dr. Trudeau has kindly written me a letter stating his opinion, which says: "I think the fluoroscopic examination of considerable

value if taken in conjunction with all the other methods at our disposal in making the diagnosis of incipient tuberculosis. To my mind, it is principally valuable as furnishing corroborative evidence, but could not be depended upon by itself alone. The value of the examination is also entirely dependent on the skill of the examiner and his absolute control of his apparatus.

For instance, I would attach much importance to the opinion of Dr. Francis Williams, based on a fluoroscopic examination alone, but very little on my own, for I have not had enough experience in this direction to interpret correctly what I see with a fluoroscope.

On the other hand, Dr. Richard C. Cabot, of Boston, has expressed a less favorable opinion. He says, "A shadow means a good many different things, and to differentiate them other methods of examination have to be called in and remain, therefore the court of ultimate appeal."

It has been my experience that when used frequently, the fluoroscope does help one to confirm his diagnosis.

The contractions of the heart and the movements of the diaphragm are usually clear, and any restriction of the respiratory excursion on one side can be noted. The diseased portion of the lung or lungs is darker than normal, owing to its increased density. Little use has thus far been made of radiographs in studying diseases of the chest. The movements of the heart, of the chest walls. and of the diaphragm render all the outlines indistinct.

Prognosis.

We can certainly promise that every incipient case of pulmonary tuberculosis is, under favorable conditions, curable In more advanced cases a good digestion, a gradual onset, absence of fever, and a favorable environment all point to a complete recovery. It is remarkable how many apparently hopeless cases have the progress of the disease arrested in a well conducted sanitarium, such as we have in our own mountains at White Haven.

SANATORIUM TREATMENT.

BY ELWELL STOCKDALE.

Supterintendent White Haven Sanatorium of the Free Hosptal for Poor Consumptives.

READ APRIL I, 1903.

Sanatorium treatment for tuberculosis is quite new in Pennsylvania, only dating since the summer of 1901, when the White Haven Sanatorium was opened. It has been the usual belief, and in fact with many continues to be, that the only chance the consumptive has from this section is to immediately go to Southern California, Colorado or abroad, or possibly to the South, all of which is based on the theory that the climate of these sections will effect a cure. With many it is also the belief that the Sanatoria Open Air and Rest Cure is quite a new treatment for tuberculosis, and while it is in this section of the country, yet as a fact it was first started about thirty years ago at Goebersdorf, Germany, when Drs. Bremer and Detweiler started their Sanatorium and put the open air rest cure in practice. The climate there was not ideal by any means and so far back as this, these physicians who were considered the highest authorities on lung treatment in Germany, put but little stress on climatic conditions except to get away from congested districts where smoke and dust could be avoided, and get a south-east exposure. It was not long before these physicians disagreed on the question of exercise, Dr. Detweiler claiming the patient should never walk until there was a normal temperature and pulse rate, while Dr. Bremer claimed they should walk even with a light fever. The result was that Dr. Detweiler interested some wealthy people of Frankfort and they built for him the famous Falkenstein Sanatorium which accommodates about 140 patients and is about the largest in Germany. The correctness of the theory of Dr. Detweiler was proven here, for his results far surpassed Goeberdorf and most Sanatoriums since built in Germany have accepted the Falkenstein treatment as the standard and all have put it in force with such modifications as they thought was an improvement.

The Sanatorium at Falkenstein is built, in a measure, the shape of a horse shoe, the patients resting in a willow reclining chair on a covered terrace on the inside of the horse shoe facing the south-east. This makes an ideal way as it gives ample protection from the prevailing winds. The patient at Falkenstein is really not compelled to do the treatment as hard as they might and for this reason they hardly improve as rapidly as when forced feeding is insisted upon.

No doubt the most successful treatment abroad among the foreign Sanatoriums is that at Nordrack, Dr. Walther's Sanatorium in the Black Forest. The system here is most rigid and no prison discipline could be more exacting. The patient is not requested to do the various things of the treatment, but is told he *must* do them. The doctor is the judge of each one's appetite and puts what he considers the requisite amount of food on each one's plate and the patient must eat it before leaving the table.

Walking is their mode of exercise and the system is most elaborate. The walks are like circles within circles. The patient starts with the smallest circle and increases the walk at the order of the physician until the largest circle is completed without fatigue.

The most ideal of all the resorts abroad for consumption is Davos-Platz, in the Alps of the Switzerland, about 5,200 feet above sea level. The season for patients is from October until May, and while the thermometer often registers 30 below zero, there is no suffering if one has warm wraps in which to sit out and do their cure. There are several Sanatoriums here, all practically on the Falkenstein system, but the majority of the visitors, which number about 5,000, live in hotels and consult local physicians, the most famous of whom is Dr. William Huggard, whom all the English-speaking people see.

The life at Davos during the season is very gay and in spite of positive instructions to the contrary, patients go in for all there is going on, with the consequence the recoveries there are not so rapid as they should be. Davos surely proves the theory that to get well and to make no mistakes a Sanatorium with

rigid discipline is the only method. Doing the modern treatment is really doing the very things one will not do voluntarily and it is only by the most constant supervision that the patient can be made to follow the strict rules which are necessary for their recovery.

Of those who go West to Colorado and Southern California the majority lose any chance of recovery they may have by going in for excursions, sight seeing, etc., and the first thing a consumptive patient usually does is to buy a pony, ride half the day and kill themselves by inches. Of those who do effect a cure, it is seldom they are able to return to the East and keep well, so the result is they must make their homes there far away from family and friends and start anew in business in a country already so overrun that the best of help can be secured by business men at wages so low one could hardly meet expenses, for living is high and the food as a rule poor unless one can afford the finest hotels.

A physician should really consider carefully before sending a case so far from home to a place strange and new, and it would be well if all physicians would make it a rule of never sending a patient to a place unless they were perfectly familiar with it, the expenses, etc., for in that case we would not find so many of our people stranded in the West or coming home to die with several hundreds of dollars wasted.

It was for these very reasons that prompted the Free Hospital for Poor Consumptives of Philadelphia to open their Sanatorium at White Haven, Penn'a. The site selected is about 1,500 feet facing the southeast. The soil is of red shale and most porous, making it free from dampness or moisture and drying very rapidly after rains. The Sanatorium was opened in August of 1901, and while the equipment consisted of merely a dilapidated farm house and a worse barn, the results were most surprising. While the summer months lasted the barn afforded a most ideal place for a dormitory, as the sides had large cracks and openings and gave the wind a free sweep. But as colder weather came on it was far from comfortable and I have often seen our patients sleep there with the thermometer

below zero, the snow blowing in on the beds, no heat whatever and hot water bottles freezing by morning.

This was surely a most strenuous life and had President Roosevelt ever seen such conditions he would have certainly referred to it in his famous book, for never were there a braver little band of men than those eighteen who faced our first winter at White Haven. In spite of these conditions the patients contracted no colds, pleurisy or pneumonia and never since have our results quite equalled those obtained under these conditions, and the majority of those eighteen are well and working to-day. The example is a strong point in favor of the tent theory for all winter, but personally I would hardly advise anyone to try it, for looking back now it is difficult to understand just how they did pull through such a vigorous life.

The system of treatment at White Haven is a combination of the best ideas gathered abroad, together with original ideas of Dr.Flick, and combined we have proven beyond a doubt that our recoveries and improvements cannot be equalled by any Sanatorium we have any knowledge of to-day, in the same length of time, and this is in spite of conditions that are still crude owing to lack of funds, and if we are successful in ever raising the necessary money, we purpose showing the public the largest and most complete Sanatorium in the world to-day.

At present we have 100 beds with a large waiting list, but if the funds can be had we purpose increasing this to 200 or 300 this coming summer. With all these patients we have a staff of but eight employees with one resident physician, and a weekly maintenance averaging but $4.70 for the past fiscal year,—yet we give our patients from 4 to 6 quarts of milk and from 6 to 12 fresh eggs daily. I know of but few institutions that are so economically conducted, and yet our food is invariably of the best quality and the quantity is never limited.

As to fresh air, we insist on all whose temperature permits staying out doors from 8 to 12 hours daily. All are provided with reclining chairs placed on porches or protected from the winds and wrapped in warm blankets and given foot warmers

when needed. If properly wrapped up the patient can be made comfortable in spite of all elements and it is this sitting out that hardens the patient, gives them the appetite to take our forced feeding and makes them sleep well at night.

On forced feeding every patient is compelled to take not less than 4 quarts of milk and 6 fresh raw eggs daily and many take 6 quarts of milk and 12 eggs daily, a few even more. On the question of taking milk, I would like to say that I have seen many patients abroad and in Colorado refuse milk because it "upset them" as they said, and so prominent a physician as Dr. Knopf says many are unable to take it, but of nearly 400 cases treated at White Haven we have never had a case whom we did not ultimately induce to take the milk diet and yet a big percentage had never drank it before coming, proving that if given properly and of the right quality, which is the essential point, anyone can take it.

To keep our milk right we insist on the dairies supplying us conducting them according to our orders and we personally inspect them to see that our instructions are carried out.

To our minds no patient has much chance of recovery who cannot take forced feeding, and to make this possible it necessitates the best of food, the highest grade of cooking and a carefully selected menu.

Our breakfast is a light meal served at 7 o'clock, consisting of fruit, cereal, coffee, milk, raw eggs and rolls. At 9 o'clock a lunch of milk and eggs is served and at 12 o'clock dinner, which is the only heavy meal of the day.

Dinner consists of soup, with beef steak or roast beef, with lamb and mutton occasionally merely for a change; those vegetables such as potatoes, stewed onions, macaroni and cheese, rice, carrots, turnips, beans, etc., and in summer fresh vegetables. A dessert is served of some plain pudding containing milk and eggs and on Sundays and occasionally during the week, ice cream. No fancy pastries or pork or veal are served, but cabbage we find safe if boiled not less than four hours.

At 4 o'clock lunch is served of milk and eggs and soda crackers, and at 7 o'clock, supper, which consists of either boiled

rice, mush and milk or Irish stews, etc., with milk and eggs, tea and cream cheese, crackers. Butter is always served in abundance and all are encouraged to eat as much as possible of it. We only limit the minimum quantity, never the maximum and we insist on the patient eating his dinner whether disposed to do so or not.

Temperatures are taken at rising and bed time, also pulse rate, and a careful record chart is kept of these with quantity of eggs taken, hours at cure, bowel movement, etc.

The patients are divided in three squads, each under a captain who has lieutenants to assist him. They eat at separate tables, do all their own work as to housekeeping, etc., except of course cooking.

They are divided into three classes: the first class doing the heavier work, the second class light work, the third class complete rest. The work therefore is divided to suit each class and each patient, unless in the third class, must do his or her share of the work. After breakfast each patient is seen personally and his record chart scanned, and if there is a rise in temperature or pulse he is put in the third class for that day, and if temperature is above 100 degrees is put to bed. By carefully watching the record chart, colds can be checked at the start and the patient is guarded against any serious development; upset stomachs are carefully looked after and the smallest detail receives careful attention. None are allowed to move about with a temperature above 99½ and above 100 they go to bed until temperature becomes normal.

All our patients rest in bed not less than 10 hours. All windows are kept wide open. No attention is paid to draughts. All are weighed weekly and weight recorded. Some of the weights are remarkable—many gain over 20 lbs. the first month and one man has gained 23½ lbs. in 25 days. I distinctly remember a case at Falkenstein who gained 12 lbs. in a month and he was the show patient of the institution and all wanted to see him. At White Haven we have had the same gain in *one week*. Dr. Walther at Nordnack always has the largest gains in Europe, but they have never yet reached records we have made.

The secret of our success is our method of feeding and the careful individual attention the patient receives, and our rigid rules to which there is no unbending and to which all must adhere or leave. The patient soon falls into this routine when they realize it must be done and after the first few days find it far from a hardship.

The medication used is Europhen in all cases, and varying tonics to aid digestion in most all cases. Expectorants when having a cold, and creosote in all cases with mixed infection. Whisky is never given.

With this treatment the cough and night sweat disappear and the patient gains weight. For hemorrhages nitro-glycerine is used and as a precaution against them it is also given where there is an accentuation of a pulmonary second sound of the heart. With this practice we have been very free from hemorrhages, probably six cases being all we have had.

The sanitary regulations are most exacting. All are provided with sputum cups which hold a paper cup into which they must expectorate. They also have paper napkins to use when the cup is not at hand and the paper is put in a bag, all of which is burnt twice daily. Spitting on the ground is made a cause for expulsion.

The work at White Haven teaches us some valuable lessons, and proves one need not leave home and friends to effect a cure, and I can honestly state that in all the resorts I have lived I never saw such results as obtained at White Haven. It proves that tuberculosis is curable under the poorest surroundings if given the proper food and plenty of fresh air, and proper supervision and no one except those who have visited the institution and studied it can appreciate the wonderful work being done there, and physicians should feel gratified that they have a place so near home that they may send their consumptive patients. The accompanying photographs will give a fair idea of the appearance of our patients and instead of their lives being hard as one would believe, they are a wonderfully happy little colony living a unique life, making as hard and brave a fight as mortal ever did and deserving the help and sympathy of all.

THE HOME TREATMENT OF TUBERCULOSIS.

BY DR. WALTER DAVIS, WILKES-BARRE, PA.

READ APRIL 1, 1903.

This means treatment not in some famous foreign climate nor at a sanatorium; and the fact that here is a treatment dignified by this name indicates that experience and reason show there is some hope and success in it. Now this is a welcome fact, because however much one might prefer for his patient, the climate of Florida, New Mexico, the Alps or Egypt, or the special advantages of sanatorium life, the fact remains that about ninety consumptives in every hundred must live or die by the treatment they receive at home.

The fact that climatic and sanatorium treatment, though available to so small a percentage of sufferers, has been so prominent in our minds, registers the pessimism that has prevailed regarding the prognosis when treatment was conducted in the same environment in which the disease is contracted. This pessimism was well founded, for in the same environment, living the same kind of life, they could only occasionally recover.

Therefore we sent them West for change of air and to sanatoria for change of air plus change in the way of living, but the conclusion has been reached by many eminent men that we may often gain good results by keeping them at home, provided we change the environment to one unfavorable for the growth of the germ and change the way of living to one favorable to the growth of the man.

The advantages of climatic and sanatorium treatment may be imitated at home. If the air is pure outside the window or back yard in Wilkes-Barre, it is as healing to sick lungs as pure air when it flows from the Rocky Mountains. Of course we know that it is not always pure in Wilkes-Barre. The valley is not as well ventilated as the mountains and there is apt to be some dust in the air. It is apt to be too foggy in the early spring and late autumn and too warm in July and August, but in the winter and for many weeks and months throughout the

year it is pure enough to heal the lungs and keep them well. I pointed out at another time the fact that we have one death in 17 from consumption, while for the whole State there is one death in 9½.

At any rate we have no tenement problem to deal with and the poorest consumptive here has only to open his window or go out on the porch and breathe the best air available. And as we rejoice at the contrast between the way our poor people live when compared with the conditions described by Jacob Riis, we know too that we have no such absolutely poor consumptives as those Dr. Knopf refers to. And fortunately from a consumptive, if not from an aesthetic standpoint, the rich people here have largely abandoned the hills where the freshest air is to those who must stay at home if they get this disease.

In order to get fresh air for home treatment occupation must often be changed, not given up, but changed, and for clerks and inside workers this is the saving clause.

In many occupations, if the disease is in a quiescent period, it may be enough if the window of the shop or office can be opened. At night all classes, whatever they do in the day, can open the windows and get fresh air.

If the patient stops work he can spend all his day in open air, rain or shine, summer or winter, whatever the weather. Very often, though he cannot go far away or stay a long time, he may go for a few weeks or months to Dallas or the mountains about us, where I am convinced he can find air as pure as any that blows over the foot-stool.

Treatment at home emphasizes most strongly the necessity for great care in destroying the sputum for the protection of the home. It is a simple thing to a self-respecting man to always cover his mouth with his hand when he coughs, and to spit into old linen clothes or paper, which can be kept in a double paper bag until the whole thing can be burned. These things he will try to do if he knows that he will protect the family, and I have always found him grateful for such information, but as a stimulus to what he will do if he is simply self-respecting, I suggest that the instinct of self-preservation

in his good wife be sought in co-operation so that fear may also be an incentive.

In order to give prophylactic instructions the patient should always be told what ails him. Without this we can never secure his assistance either for disinfection or treatment.

If as the result of explicit directions the sputum is thoroughly cared for, we have high authority for believing that there is no danger. Dr. Knopf has said that the safest place, if you want to escape consumption, is at a well-kept sanatorium for consumptives.

Home treatment must imitate other treatment, by providing good food in abundance and variety and digestives to assist in turning it into bigger and healthier men. If milk is an important part in the diet, in this town we may know in general that it is not very apt to be watered, but that it is quite likely to be dirty. I know from having visited all of them that there are few farms in this valley where they have any high calling to raise aseptic milk.

In cases where patients are unable to purchase the large amount of milk and eggs necessary to over feed them, the physicians should co-operate with Poor Board or United Charities. Milk dispensaries maintained either by public or private monies will be the soluton of this problem in the future. Over the patent's work, exercise, rest, hours of rising, going to bed, bathing, times of eating, clothing and all other details, the more minute the supervision the better we are able to assist the desperate efforts that nature is constantly making to save him.

This is the great advantage of sanatorium treatment—that supervision and regulation are easy—and it is no less an advantage in home treatment and can be done if the patient wants to get well and the physician is able to help him.

As an element in success the skill and knowledge of the physician in the case is of the greatest importance. Dr. Flick said to me a few months ago that the most important element in treatment is not climate or food, but the physician.

Consumption is a disease of infinite variety and complexity, with spontaneous attempts at recovery. There is no disease in which routine treatment is more absurd.

There are broad principles of treatment and endless modifications for different forms and stages and complications and sociological conditions. We must bring into action in seeking indications all our knowledge of the etiology, pathology and clinical course of the disease. A good way of thinking when seeking what to do is to translate all physical signs and symptoms into their pathological equivalents. What amount of the destructive processes, congestion, consolidation, caseation, softening, suppuration and ulceration, and what amount of reparative processes—fibrosis, limitation, removal of inflammatory products, anatomical readjustment, hypertrophy and incarceration, and destruction of the tubercle bacilli?

To show how ridiculous are routine cough mixtures and lung healers, apply this method to the cough. If dry, is it due to congestion, tubercles or pleurisy? If moist, to bronchitis or the natural provision for discharging the detritus from a cavity? Is it due to laryngitis, catarrhal or ulcerative; or is it accidental, due to dust, unnecessary exposure, cold sheets, overexertion, change of posture, taking of food, nervousness or habit? And so with other symptoms—fever, hemorrhage and night sweats.

The indications for treatment are in correct diagnosis of the pathological condition.

What of our armamentarium in the way of medical remedies? Forty years ago Austin Flint, in his excellent text-book, after laying down all the great principles in which we believe to-day, said that many specifics had been tried and found wanting. He mentioned wood naptha, cod liver oil, phosphate of lime and chlorate of potash. Since his day the profession has not generally taken much stock in heralded specifics except tuberculin, and if some such method does not prove to bring it, probably none will be found.

Creosote, cod-liver oil, hypophosphites, arsenic, iodine-paste for combined counter irritation and specific action; inhalations, injections of iodoform into lung tissue, urophen inunctions, all have a beneficial influence in selected cases by building up the patient and reducing catarrh, thus increasing repair and resistence.

For special symptoms, fever, haemoptysis, sweats, diarrhoea, and pleuritic pains, there are many good remedies which, if needed can be used, but the list is too large and well known, and enough has been said to show what I believe, that it is not by using any sterotyped method but by making correct judgment of the state of health of particular patients at particular times and applying all the common-sense medical means known to us, that we can achieve good results for our patient whether we send him away or keep him at home.

DISCUSSION.

DR. A. C. BROOKS.—It is only of recent date that we have been able to interest our philanthropists and our legislatures to take some action in this direction. If this had been something pertaining to hog cholera or such like, we could have gotten them to work, but when it comes to human life oftentimes they seem to be very indifferent. In regard to home treatment, I think Dr. Davis's paper was very good. I also think it is very hard to carry out suggestions, however, made by him as to the home treatment. When we find that in institutions in Germany that they have hard work to enforce discipline to get the consumptive out into the fresh air, etc., I think we find in every day life the practitioner has a hard time to get the patients to get fresh air. That is what they need most of all. When the stomach does not retain the food, or there is any form of dyspepsia, then they try all forms of quack medicine from the drug stores—this they do not get at a sanatorium, and they experiment with themselves more or less. So it seems better results can be obtained in a sanatorium than in home treatment, because you cannot get the patient to work with you.

Some of the main points in a sanatorium are:

1. Fresh air for ten or twelve hours, and longer than that if the windows are open at night, and also free access to the sun. A good many at the present time are trying the concentrated sun rays.
2. Regulated rest, as for instance, when the fever becomes higher, so that it requires rest, they are under guidance and get rest, and if they havent a fever they do not get the rest.
3. Controlled exercise.
4. What the essayist just mentioned, abundant food, as he very ably dwelt upon.

5. Obedience to all hygienic conditions in the way of taking care of the sputum, the baths and the regulation of having sufficient rest at night, going to bed when it is time, etc.

6. The medical care, and in that respect the sanatorium has a decided advantage over the home treatment, as these cases generally cover a long period of time and the Doctor is not able to keep track of his patient every day, as is needed.

On account of these reasons, I think that the sanatorium treatment for these classes of patients is far superior to the home treatment. Although we map out home treatment, we cannot always have it carried out.

DR. FELL.—I remember some time ago Dr. W—— said to me that if he had consumption he would get out into the woods, and take abundant food and take good whiskey. I have not been blest with the best of health myself; the time was when I weighed 114 lbs. I remember once one of the old members of this Society met me and he said, "Elec, you want to go West, to Mexico, Arizona or California." I said, "Doctor, I haven't any money to go with, and as far as going among strangers, I cannot do it." Then he said, "Well, then, I hope you will take plenty of milk and cream and a little whiskey." I took milk and cream and whiskey, and lived out of doors as much as I could. I am here and hope to stay here a great many years. Whether I had tuberculosis or not in me, I don't known, but I do know I lost one sister from it. I have made a good fight, and I don't think I have any tuberculosis in me now.

As to our legislature, I think we are too apt to condemn the legislature. The legislature of the State of Pennsylvania I believe will appropriate as willingly money to stamp out tuberculosis in man as it would cholera in the hog. I believe that the fault has not been in the legislature, but with the people themselves. Up to within 30 years, and yes, up to within three years, there was not a sanatorium in the State of Pennsylvania. The people were not interested in how they could eliminate that disease, and never have the people until the last few years, gone to the legislatures of the several states and asked them to take a hand in it. I believe there are honest men in the legislature, more of them honest than we are apt to give credit, and I think if we all take an interest, we can awaken the legislature so that they will appropriate money to the elimination of this disease, and I believe it is one of the diseases that will be finally controlled.

DR. LONG.—I think there are several things which should be mentioned. In the first place, in regard to the excellent ar-

ticle of Dr. Davis on the home treatment. There is one factor in my mind which has not been brought out—the fact of overfeeding the patients and giving them all the food they can possibly take. It must be borne in mind that tuberculosis is particularly a disease of the poor, and the answer will be given in regard to this, probably, that when you have made out a diet list for your patient who is poor, they have not the wherewithal to buy the stuff. If this is an infectious disease, if we are apt to get the disease from people walking along the street, we are naturally bound to ask for protection—what they are trying to get in Europe now is a public dispensary; this would take a tuberculosis patient out of the hands of charity entirely—this man does not have then to ask for charity, he simply asks for food and protection for himself and his family. It is a duty we owe to ourselves and the consumptives, to build some place where they can get the treatment, and not only the treatment but the food. We have the right to go before our Councils and Poor Boards and ask them to build such dispensary for the poor patients, and that will take the whole thing out of charity. We have no right to ask any Doctor to spend from two to four to six hours a day giving instructions. You cannot handle a tuberculosis patient like an ordinary patient. He must be thoroughly examined day after day—instructions must be given how to live and how to eat. A scientific physician should be engaged and paid out of the City funds, and in this way there would be no charity about it.

Another thing comes into my mind—what to do with patients after they leave a sanatorium. It is true that to a certain extent they go away from the institution cured; some of them remain cured, but some of those having to go back to the same environment as before, they get into the same conditions as before, and do not remain cured. We owe it to the family of the patients to take care of them after they leave the sanatorium; to get them out into the country, and give them employment there. Mr. Stockdale probably knows of the Denver Home for Consumptives. There they will not keep any patient more than four months. There is such a demand there for patients—they have room for 400, I think, which allows them to take care of over a thousand a year. The question with them was, what to do with the patients after they are cured, as they could not be sent back to the tenement district, for instance in New York, or to the sweat-shops. They got several gentlemen of wealth interested, and raised a fund which has now reached about $200,000. None of this money will be used for the hospital, but to get their families out to them, sending them

to Arizona and New Mexico. This appears to me as a great question, as to what to do with the home treatment of the poor after they leave the sanatorium.

DR. MAHON.—I recall one patient who about 25 years ago was sent to Florida for the winter, returning home unimproved; he was thoroughly examined and advised to get home and settle up his business, as his term of life would not exceed nine or ten months. He returned home and settled his affairs and then went to a somewhat warmer latitude—lived in the open air, took chiefly milk and eggs, but the most necessary thing seemed to be open air. So far as I know, he is in the West now, practically well. That was 25 years ago.

I think that the most essential thing is to live in the open air. If patients return from the sanatorium and live out doors as much as possible, I think that the cure probably would be permanent.

DR. SCHIEFLY.—I am intensely interested in the matter of home treatment. I have under my care now three or four children ranging from ten years to sixteen. I have found signs of tuberculosis in their sputum, and the disease is very far advanced in some of the cases. I have placed each one under the treatment suggested by Dr. Davis, and there is a marked improvement. One little girl 14 years old gained 12 lbs. in 2½ months; there have been also gains of from 12 to 16 lbs. in six months—they are living in the open air, with the windows open all winter.

DR. MINER.—Talking about weights—there was a man, a Russian, examined for White Haven Sanatorium early in January. He was down there one month, and when he came back, said he had gained 30 lbs. I told him I couldn't believe it. He calculated, however, and found he had gained 20 lbs. He took four quarts of milk and six raw eggs and a dozen or two raw oysters every day.

DR. DAVIS.—I have seen patients who have gained 10 lbs. a month at home. I know one man who has had the disease for two years, who has gained six lbs. in a month.

DR. STOECKEL.—The subject of pulmonary tuberculosis has been so well and fully presented this evening, that I am unable to add anything that has not already been said. However, I may mention a case or two in which the open air treatment has been very helpful. I recall a young woman, single, aged 23 years, in whom all symptoms of pulmonary tuberculosis were marked. Several examinations of the sputum were made, which confirmed the diagnosis. The indications were that she would

succumb in less than a year. I advised a residence in Southern Pines. She went there in the Fall of 1897, but after six months came home, showing only slight improvement. Three months later an attack of pneumonia with pleuritic effusion left her with barely sufficient strength to return to Southern Pines in the Autumn of 1898. The pulmonary trouble had also made some advance. After a second half year's stay there, she wrote me that since she would rather be dead in Wilkes-Barre than alive there, she was coming home to stay. She came back, and from that time to this has been living literally on the street, or on the porches of any boarding house that would admit her, sleeping in a hammock, excepting in too cold weather, and at such times, with wide open windows. There can be no doubt but that the disease is held in abeyance by this method.

It is in poor taste to cite a personal case, but one in whom I am specially interested was given over to die of pulmonary tuberculosis many years ago, by Drs. Mayer and Dennis. Good nursing by a mother whose care was untiring, a generous diet of milk and eggs, together with two years spent in White Haven and vicinity, during which time horse-back riding was a daily exercise, regardless of weather conditions, with walking, rowing, etc., and cod liver oil and whiskey for medicine, and after this four years of outdoor life in Dallas, brought about a permanent cure, with a degree of strength commensurate to a four years' course in medical college, followed by 13 years of medical practice, and continued full health.

REPORT OF CASES.

BY DR. ERNEST U. BUCKMAN, WILKES-BARRE, PA.

READ APRIL 15, 1903.

J. M. called April 1, 1903, with an acute inflammation in the right eye. It was not especially painful, but he felt anxious about it as he had lost his other eye from chronic glaucoma, it having been enucleated by me about a year ago. The trouble in the right eye came on in the night of March 31. He could assign no cause, but thought he had taken cold. There was a scratching feeling as though something were in the eye. The inflammation was confined to the palpebral conjunctiva, nasal side, and was shaped somewhat like a pterygium, though

broader. I made a careful examination and could find nothing. I assured him it was not serious, and gave a mildly astringent wash to be used at home. The next morning, April 2, he returned, and said he thought there was a hair in his eye, that caused the trouble. I assured him that could not be, or I would have found it at the first visit, but to satisfy him, I made another careful examination. This time I noticed a tiny black speck at the mouth of the canaliculus of the upper lid. I seized this with forceps and drew out a piece of hair about one-quarter of an inch in length. The patient then recalled the fact that a hair had gone into his eye while having his hair cut on the 31st.

This case is interesting for two reasons; first, because the foreign body was overlooked at first, and second, from the unusual position which it occupied.

I have known personally of but one similar case, which Dr. Taylor reported to this Society some years ago. In this case the foreign body was a piece of rye-beard, which had been in for quite a long time, and which I also overlooked at the first examination.

The upper canaliculus is not the usual exit for heavy bodies in the eye, and in both of these cases the body must have flown directly into the canaliculus, as it could scarcely be possible for it to be washed there by the tears.

The second case is in rather striking contrast to the one just reported.

J. J. was admitted to the City Hospital February 23, and the following notes were made by Dr. Lazarus, Resident Physician.

"On admission, patient was suffering from burns about the face and eyes caused by an explosion of babbit metal. The burns about the face were very slight. The metal had entered the eyes and produced considerable burn. The lids had closed over the metal while molten, and the lashes of the upper and lower lids were sealed together. In order to extract the metal the lashes were cut from the upper lid, and the metal was then turned out. In both eyes it was an exact cast of the eye-ball. Several small pieces were removed. The two largest, about

the size of a tomato seed, were removed from the outer canthus of each eye. The entire amount of metal removed from both conjunctival sacs was about 20 grains. The ocular conjunctiva was considerably blistered, especially on the right eye. The cornea of the right eye looked as though it were blistered, but that appearance cleared up later. The cornea of the left eye did not seem to be injured."

The after treatment consisted of ice compresses, instillations of Atropia three times a day, and frequent washing with Boric Acid Solution. There was much pain the first night, and the swelling of the lids made it impossible to remove any foreign matter that might have been overlooked, when I saw the patient the following day. The ice-compresses were applied almost continuously for four days, and the Atropia and Boric Acid Solution were used some days longer.

The patient made a very rapid recovery and was discharged from the Hospital March 3rd. Dr. Taylor saw him at his office on that date and three times afterward. I quote the following from his Case-Book:—"March 3. V. in OD. $\frac{20}{?}$ OS. $\frac{20}{100}$. Both eyes dilated with Atropia. Can open eyes all right. Lids are not well externally. Use Vaseline externally and wash eyes with Boric Acid.

"March 9. OD. $\frac{20}{?}$? OS $\frac{20}{200}$ Same treatment.

"March 16. OD. $\frac{20}{200}$? OS. $\frac{20}{200}$

"March 27. OD. $\frac{20}{?}$? OS. $\frac{20}{?}$."

The good result in this case was due chiefly to the complete removal of the foreign material, as soon as it was possible after the accident, before the lids had become swollen, and the metal had injured the eyes by its mere presence.

Dr. Lazarus removed the metal from the eyes, and he is entitled to much praise for the skillful and thorough manner in which it was done.

SUPPRESSIBLE DISEASES.

BY DR. JAMES W. GEIST, WILKES-BARRE, PA.

READ MAY 6, 1903.

I have chosen this subject, not because I know much about it or have given it any particular study, but rather because of a realizing consciousness that there are quite a number of diseases which to-day may be classed as suppressible, besides, when a man like Dr. Wyman says that this century should witness the elimination of contagious diseases, it well becomes us to think it over and adopt if we can as optimistic a hope.

I propose to briefly review a portion of what we have attained, and suggest what we may yet accomplish with expansion of the knowledge and means now at our command.

Man, naturally, has ever, even in his most primitive state, striven to avoid disease, but for thousands of years the invisible tangible of it eluded his search and the monster remained the same unsolvable mystery. As no positive material causes could be found, it seemed to him that his ills were sent as a punishment by an angry but just God, whose wrath might perhaps be appeased by sacrifice and prayer, or if perchance they came by an evil spirit, incantations or tortures should cast him out.

Of the writings left concerning the ancient Egyptians, Chinese, Hindus and Hebrews, those of the Hebrews, in Leviticus, recording their rules of public health, alone command our wonder and respect, as anticipating in a great measure our present ideas of sanitation.

It is said of the ancient Greeks that through their Gymnasia they had built up a remarkable nation of athletes, and a people of such rugged constitutions that among them diseases were almost unknown.

Examining into the wisdom of the Romans, we find this wonderful nation not lacking in matters pertaining to civic hygiene, for even during the period of their great military operations 2400 years ago, they yet found time to construct the "Cloaca Maxima," which not only served to carry away

the refuse, but also drained many of the marshes, and constitutes the principal sewer of modern Rome. At the same time they built miles upon miles of aqueducts, whose splendid ruins attest the munificence and abundance with which the first sanitary requisite was supplied to the Eternal City.

While nearly every people instinctively practiced bathing, either for cleanliness or pleasure, the Romans were the first to build public baths and between the years 400 B. C. and 180 A. D., they established about 800 of these, one of which, the "Therma Caracallae," it is said, could accommodate 3,000 bathers at one time.

We are led from these facts to infer that the most intelligent nations early recognized the importance of cleanliness, exercise, pure water and drainage, as sanitary measures necessary to bring about and keep their body vigor at its best, thus giving them the greatest possible natural immunity or resistance to disease.

During the middle ages, this accumulated knowledge was very much neglected, perhaps forgotten. Ignorant and brutal prejudices were the ruling spirit of the people, and it was by far the most "unsanitary period of history." With all conditions favorable to the rapid spread of infectious diseases in the fourteenth century, the plague, then known as the oriental pest and the black death, swept over Europe, and according to Hecker, carried off 25,000,000, or about one-fourth of the entire population. Although this disease had been described as early as the third century B. C., a deplorable state of ignorance was shown when we remember that the majority of the people regarded the plague as a dispensation of God's providence, of His divine wrath, which they hoped to allay by all sorts of self-inflicted punishment, and the passion plays of Oberammergau and other places, originated about this time as vows by the people. Others accused the Jews of being the cause, still others explained it by a conjunction of planets, by earthquakes, unseen waves of air, inundations, etc. Of all Europe, the Venetians alone took a sensible view and for the first time in history, in 1348, appointed three guardians of

public health, and the rules adopted later to isolate infected houses and districts for forty days gave rise to the term quarantine.

Early in the eighteenth century, Prussia, again threatened by the plague, created the "Collegium Sanitas," also called the pest college, which was the beginning of what we now know as a state board of health.

During these centuries, the accumulation of accurate knowledge was for many reasons very slow, yet each added its quota of facts to those of the preceding and thus was prepared a path for our more scientific era of the ninteenth and twentieth centuries.

The microscope, which has lately so greatly extended the range of our vision into the minute animal and vegetable worlds was being improved and used even then, imperfect as it was, by anatomists. And the study of anatomy itself, which up to the beginning of the sixteenth century had been discouraged by both state and church, was now more favored, and produced such men as Vesalius, Eustachius, Fallopius, Sylvius and Fabricius, whose student Harvey, observing all these men had seen and more too, after fifteen years of proof and counterproof, dared announce to the world his discovery of the circulation of the blood.

The names of Pare, Bichat, Malpighi and Sydenham suggest to us men who were both progressive and ~~scientific and whose~~ zeal and devotion to the medical art did much for those that followed them, yet the sum total benefit to humanity of their work, together with that of their contemporaries, cannot compare with that of the greatest discovery ever made in the healing art, vaccination by the immortal Jenner.

One writer says of small-pox: "It had for several centuries been, more than any other pestilence, or even war, the foe of man. It had spread to all climes and over all countries, carrying off on an average fully one-sixth of those attacked by it, and inflicting incurable blindness or deafness and frightful disfigurement upon great numbers of its survivors." Again, Lord Macauley, in 1694, described it in these words: "The

havoc of the plague had been far more rapid, but the plague had visited our shores only once or twice in living memory, and small-pox was always present, filling the church yards with corpses, tormenting with constant fear all whom it had not yet stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changling at which the mother shuddered, and making the eyes and cheeks of the betrothed maid an object of horror to the lover."

We need not wonder then that in their eager search for some moderating measure or protective against this scourge some of the nations had adopted direct inoculation of the variola virus, a practice introduced from Turkey into England in 1721 by Lady Montague, the wife of the English Ambassador at Constantinople. But, while variolation was accepted and generally resorted to, even in America, there was ever present the danger of giving small-pox to the individual as well as the danger of establishing a new focus for the spread of the disease, so that after this exceedingly dangerous old Chinese method of immunizing had been in use for about seventy-five years, the world was more than ready to accept quickly the harmless artificial immunity of vaccination, and within six years the entire civilized world had taken up this, the first and greatest of preventive measures.

Looking back one hundred years, it seems like mere chance that among the physicians of those days there should be one who would pay attention to a popular local belief of country people; and when we remember how abundant among the laity, even in our own day, are the innumerable superstitions, sure cures and unfailing preventions, we must give this man a larger meed of credit for his faithful and thorough investigation of the subject. As a student under Hunter, he had suggested the idea to him, but Hunter merely made answer "Don't think, investigate," and this Jenner did from 1775 to 1796, carefully verifying his work step by step until he felt justified in publishing the facts to the world.

Here, without a laboratory, without a microscope, without cultures or any of the accessories so necessary according to

our present ideas of reaching out for the knowledge that may lead to the solution of the problems in prevention, a bright mind, by patient observation and reflection alone, for the first time since man began to be afflicted with diseases, saw in the simple sores on a milk maid's hands, a safe and sure way by which mankind might be spared from the ravages of a most loathsome, disfiguring and frequently fatal disease.

In vaccination Jenner unconsciously accomplished what is known to-day as the attenuating of a virus by passing it through the body of a partially resistent animal. The experiment has again been recently made and it has been proven that small-pox may at times be inoculated into cows, and when this occurs the animal suffers from a transcient local disease. If inoculation be practiced from this cow to others, a disease is finally produced identical with cow-pox that will cause the usual vaccine sore when inoculated into human beings. Therefore, it is assumed that cow-pox is small-pox modified, and attenuated by passing through the bovine species, and vaccination is the conveyance of a greatly modified small-pox shorn entirely of its contagious and malignant properties.

In investigations regarding the susceptibility of different animals to various poisons, whether mineral, vegetable, serpent or bacterial, great variations are found. Thus, a white rat can tolerate without any effect a dose of diphtheria poison large enough to kill three horses or 1500 guinea pigs, and yet the serum of the naturally immune white rat does not afford the protection or antitoxine which the gradually immunized horse does.

Around the fact of our ability to appropriate for our own benefit the artificial or acquired immunity of certain animals to the various viruses and toxins of the different contagions, cluster at present our greatest hopes of eventually suppressing the infectious diseases.

For simplicity, for safety, for effectiveness, vaccination will perhaps always be the greatest and most universally practiced of acquired immunities, and it would seem from what is now known with the greatly improved lymphs that small-pox ought

to be the first disease to be totally abolished. When a death rate has been reduced to one in 100,000 a disease may be considered as practically suppressed. This is what Germany has accomplished with compulsory vaccination and compulsory revaccination, and what Germany has done other nations can do, at least America can if she makes up her mind.

In diphtheria antitoxin we have a remedy that at present takes its place next to vaccination for its unfailing certainty of action. Vaccination and diphtheria antitoxin are the only two specific remedies we have against the contagious diseases. Antitoxin differs from vaccination in that it causes a passive immunity, i. e., the active immunity is in the animal from which the serum is taken. The serum contains a neutralizing something, named by Behring the antibody, that counteracts or destroys almost immediately the bacterial toxins in the body fluids of the diphtheria patient. It is used principally as a therapeutic agent, its prophylactic or immunizing power lasting but thirty days. It has taken away the terrors of what was the most dreaded of children's diseases, and has greatly reduced the number of cases and is undoubtedly the power that will practically suppress the disease by gradually diminishing the number of virulent baccilli permitted to mature in its most favorable soil, the tender, delicate throat tissues of infants and children.

With our assumption of government responsibilities in the West Indies and the islands of the Pacific, we also undertook to better control two so-called contagious diseases, yellow-fever and the plague. The courage shown and the sacrifice made by the investigators in the first, prove once more that the great scientific men of our calling do not live for themselves alone, but are in truth their brothers' keepers.

For one hundred and forty years Havana had never been free from yellow fever, 500 to 1600 of its inhabitants dying yearly with this disease. During the first two years of American occupation, every effort was made to make the city clean, and all infectious diseases, excepting yellow fever rapidly decreased. Small-pox disappeared entirely in July, 1900, but

yellow fever not only lingered but held its own, showing that the best known measures of sanitation had not yet touched the haunts or carriers of this infection. The experiments of our Army Board, consisting of Drs. Finlay, Reed, Carroll, Agramonte and Lazear, the last named giving up his life to inoculated fever, solved beyond question the principal points in yellow fever transmission.

Dr. Finlay had been on the mosquitos' trail since 1881, and had experimented with three different varieties, but wrongly supposed that the specific agent was carried in the proboscis of the insect, and thus immediately transferred from the sick to the well. The Army Board found that the parasite had to undergo a definite cycle of development in the body of the mosquito, requiring from twelve to fifteen days before its bite could transmit the disease and that after this period it maintained its ability to infect the well for at least fifty-nine days, and also that after a person was bitten it required an incubation period of from forty-one hours to five days before the disease developed.

Accordingly, the chief sanitary officer, Major Gorgas, began the protection of yellow fever patients from mosquitos, the prevention of infection of mosquitos by yellow fever patients, and the destruction by fumigation of all infected mosquitos. No attention whatever was paid to fomites. By concentrating every care on the mosquito and neglecting all other possible sources of infection, the disease was completely exterminated from the city. Not one case has occurred since September, 1901, although patients with the disease were carried through the streets from vessels arrived from infected ports. These were protected while passing through the streets and placed in wards carefully screened. In the same wards were treated non-immune patients with other diseases attended by non-immune nurses, but no one contracted the disease. Only one species of mosquito, the stegomyia fasciata has been found as the intermediary host of the parasite of yellow fever.

The victory over this one disease alone was recompense sufficient for all the sacrifice in material and men our country

made in the war, begun and ended for hunmanity's sake, and it would seem that the thousands of lives and millions in treasure saved to the commerce of all the Americas, together with the feeling of security to the people of our own Southern States, as the direct result of the work of this board, would justify the establishing in the near future by Congress a National Department of Health, with a place for its secretary in the President's Cabinet.

With the plague which is a question of infected rats and fleas, we have not done as much. Our army medical department, however, has established in Manila a system of rat catching and microscopical examinations. A report of June 1902, records 40,666 examinations, in which 242 infections were found. Besides the rats delivered to the laboratory thousands had been destroyed by the professional rat catchers. It said, also, that from 200 to 300 doses of Shiga's antiseptic virus for immunization were furnished by the government laboratory daily.

But our best data in regard to the plague comes from Sydney, Australia, which has recently had two epidemics, one in 1900 and another in 1902. Occuring as it did among civilized white people and studied by men of experience, we must accept their observations and conclusions. "The first fact established is that the common forms are not 'catching' in the way usually supposed. With the probable exception of the primarily pneumonic type, the plague is never communicated from the sick to the well, except by way of skin atria of infection. This is brought about by such media as fleas, and by wounds and abrasions which subsequently become infected.

This method cannot prevail except when the bacilli are in the circulation of the skin of the donor of the infection, as in the septicaemic form or within twenty-four hours of death in the bubonic form. The septicaemic form while rare in man is the most frequent in rats. Plague is, therefore, readily communicated from rat to rat, or rat to man, but with difficulty from man to man. In Sidney in the first epidemic con-

tacts were quarantined, in 1902; however, the patient's family was not even kept under surveillance.

The first case which appeared in Sydney was preceded by an epizotic epidemic in the rats among the wharves and business places of Darling Harbor. Pracitcally all the cases in man were traced directly or indirectly to this focus of infection. The Sydney rats were undoubtedly infected from Oriental ports. The rat epidemic was proved to be plague. The epizotic and plague area coincided. The rat and man epidemic died out simultaneously. Experiments proved that some medium between rat and man was necessary to the infection of the latter. Experiments further showed that this was afforded by rat fleas, and fleas alone. Thus Simonds' flea theory and Hankins' rat theory were proved and harmonized.

The first case in 1900 occurred in a car-man whose work took him to and from a wharf at which vessels from Hong Kong lay. It was of bubonic form, the bubo appearing in the lowest gland of the vertical chain in the left thigh. Behind the left external malleolus was a purplish red spot, 3 m. m. in diameter, the cuticle was adherent here and broken down at one point of the circumference. Here, then, was the probable atrium of infection. Flea bites are quite small and on some skins invisible. The value of Haffkin's prophylactic serum is doubtful. Of the Yersin-Roux antiplague serum, "the opinion provisionally formed is that the serum has antitoxic powers manifested by recovery of the circulation from the depression which is a natural feature of the disease, but that in the present state it can hardly be relied upon as a curative agent. Probably the dosage requires revision."

Every year some town or city of our great country is visited by an epidemic of typhoid fever, and once started, before its power can be abated, usually carries away quite a number of the flower of its young people. The cause is always the old, old story of an unfiltered, infected water supply draining an inhabited watershed. However, outbreaks, like that of the University town in our neighboring state, and the one now in progress in a similar town of our own state, are always

great lessons, stimulating the water dispensers of other towns to guard and inspect more closely the sources of their supply. Such lessons will eventually lead up to slow sand filtration, which is the only proper method applicable to all surface waters, whether mountain streams or sewage carrying rivers. Of course the "price" of this slow going process is what "queers" the water men, but some day an intelligent public may not longer tolerate the weighing of dividends against the lives and health of its citizens. Then will we do what all the larger cities of England, Germany and France have already done, and reduce our death rate to about one or less in 10,000 which should be the maximum average considered respectable for cities in these first decades of the 20th century. We are now having for the entire country about 50,000 deaths of typhoid annually or about one to every 1,400 of population. Estimating this loss in dollars, as Americans usually do, at the lowest legal valuation set upon human life, we have the enormous total of $278,000,000 to represent the equivalent cash loss. This would be allowing nothing for the loss of time and cost of care for the 250,000 or more who recover. If, by the improvement of the water supplies, the death rate could be reduced 85 per cent., there would still remain $236,000,000 yearly to be added to the funds for the purification of water by sand filtration.

Cholera naturally belongs in the typhoid class, because the comma bacillus or spirillum follows the same methods or routes of transportation as the bacillus typhosus, and for its control and suppression requires the same measures of prophylaxis. It had its original home and still has its headquarters in the neighborhood of the delta of the Ganges. From this point at various times it has gone abroad and spread devastation in the countries having direct communication with India. It is ever present here, because the customs, habits and religious prejudices of the ignorant natives of the Ganges favor its propagation. To form some idea of the conditions prevailing in this part of the world, we need but study the water supply of the city of Calcutta. From an early experience, it

should have been the first city to learn the lesson of a pure water supply; it is likely to be the last.

As early as 1870 a sand filtration plant was built to supply the city with good drinking water during certain hours of the day, from 5:30 to 10:00 A. M. and 3:00 to 6:00 P. M. As the three old sources still remained, the natives, from religious prejudices and fear of losing caste, would not use the new until the Brahmin leaders announced that good Hindus might drink the water without injury to their caste, provided they did not employ it in their religious ceremonies. Immediately the death rate from cholera fell more than one-third. This should have suggested the abolition of all other waters. But the old, unfiltered supply is still continued and supposed to be used only for watering roads, flushing closets and sewers and for ornamental fountains. This supply, too, is intermittent. A third source is the old tank which is a pond or hole dug in the ground, the earth removed being used to form an elevation for the kutchas or Hindu huts. It provides the natives a bathing place, water for drinking and domestic use, a convenient receptacle for waste-water, and for solid and liquid refuse of all kinds. The result of using the same tank for such varied purposes can well be imagined, and while in the central portions of the city they are now being filled in with earth, they are still in use in the suburbs and in the surrounding country, and are the great sources of malaria, typhoid and cholera. These tanks, institutions of universal usage in India, are dear to the hearts of this people, and their abolition can not be brought about for many years to come.

The fourth supply is from wells, 10 to 20 feet deep, old and poorly constructed originally, usually draining the surface and, of course, this water, too, is little better than diluted sewage.

If filtered water supplied for less than eight hours out of twenty-four diminished the death rate by one-third, would not filtered water supplied during the entire twenty-four hours and used for all purposes extirpate cholera from Calcutta?

When we stop to analyze our own customs a little more

carefully, we find that we are not so far removed from this Hindu tank idea as might at first seem, for we discharge our sewage into rivers, whose waters unfiltered are again used for drinking purposes further down the line, but we have a happy faculty of soothing our minds with the myth that running water purifies itself in seven miles.

Another disease familiar to all of us and which even to the laity suggests quinine, has also fallen into the controllable list.

Twenty years ago Bristow wrote: "May it be carried by the wind, is it absorbed in its passage across the water, is it a gas, is it some decomposing organic matter or is it a living thing?" One year later Laveran saw the plasmodium malariae in the red blood corpuscle of a patient in Algeria. Nine years later Golgi differentiated two varieties of the plasmodia, differing not only in the form and nature of the spherules, but also in the time required for sporulation, representing the quartan and tertian types. A few months later aestivo-autumnal or the crescent form of plasmodium was discovered as the cause of tropical malaria.

Laveran had also noticed flaggellated bodies which he regarded as especially active forms. These Manson conceived to be spores for reproduction through mosquitos feeding on blood containing them. This theory has been confirmed by microscopical and other investigations. Major Ross, in India, found pigmented parasites in the stomach muscles of mosquitos fed on the blood of malarial subjects, but could not find them in mosquitos fed on blood of healthy or non-malarial subjects. The genus anophele was found to be the definitive host, while man is the intermediary of the protozoa causing malaria. In 1900, Drs. Sanbon and Low, from July 15th to October 15th, lived in the most malarious part of the Roman Campagna in a carefully screened house, taking no other precaution except to retire within the screened house from sundown until daylight the following morning; although there was much fever in the surrounding country and although the experimenters exposed themselves to the night air, to the cold and wet of the rainy season, taking no quinine, they yet re-

mained in perfect health. They also sent to London a malaria infected mosquito, whose bite caused malaria of the tertian type in Dr. Manson's son. Anopheles to carry malaria must be freshly infected every spring. In the spring relapses of old malarias occur and from these cases the mosquito gets his supply of infective material. If these patients are protected from mosquitoes, there will be no distribution beyond the original focus. No infected mosquitoes, no malaria, was proved in 1901 on an island on the malarious Italian coast.

When we once begin to verify our diagnoses of malaria with the microscope, much of the so-called malaria will be malaria no longer. Perhaps for a century it has served as the scapegoat for uncertain diagnoses. In cases of that tired feeling from any cause, as well as in cases of unaccountable anemias, it was a safe way of saying, without confessing it, that you did not know what the matter was, but that you did not think it anything serious. In the demonstration and lecture on the Yankee hook-worm, the Uncinaria Americana, Dr. Stiles related how, in the majority of instances, he found the physicians of the South diagnosing and treating these cases for malaria.

In regard to tuberculosis, I shall not repeat the well known facts and prophylactic measures nor the successes of the open air and forced feeding sanitarium idea, but one thought I do wish to tell: For ten years I have fished the mountain streams of the Tobyhanna and the headwaters of the Lehigh, and have often stood on the top of one of those beautiful rolling hills, where as far as the eye can see there rise a succession of similar hills, mountain and sky, and wondered whether this generation or the next would not in some way, for some purpose utilize the pure ozone laden air that blows here the year round; the city dusts carry death, this carries life, and this is the thought: the cases of tuberculosis that are so much improved at the Sanitarium at White Haven instead of being returned to their old environments in the cities with the probability of soon dropping back to their former condition or worse, might here be colonized on these health-giving hills and become self-supporting and useful to society, and thus this Pocono-Lehigh highland region might become a useful factor

in the suppression of the so-called great white plague. I believe the area is large enough to give an isolated home for every case of tuberculosis in this state east of the Susquehanna as fast as they may be passed through the sanitarium to be educated in the proper way of taking care of themselves.

The average length of human life in the Sixteenth Century was between 18 and 20 years. At the close of the Eighteenth it was nearly thirty and to-day it is over forty years. In the United States from 1880 to 1890 the span of life was lengthened six years and from 1890 to 1900 about seven years and from the present outlook it ought to continue approaching the three score and ten limit. This gain has been made largely through the better control of the pestilential diseases rather than through diminished losses from wars and famine.

As yet there is not one of the infectious diseases, unless it be malaria, of which we know the cause, its mode of transmission, an unfailing method of producing artificial immunity, and an absolutely certain remedy for the fully established disease.

For mumps, measles, whooping-cough, scarlet fever and a number of others we can hardly claim one of these four essentials. But scarcely a month passes that we do not hear of a new discovery of a cause or immunizing or curative serum, and while a majority have proved a disappointment, they sometimes have a negative value in directing some other investigator towards the true facts. I believe that at no time in the history of the healing and art preventive have we had reason for higher hopes or greater enthusiasm than in these opening years of this century.

And when we stop to consider how rapidly, within the last five years, have followed one upon another facts concerning malaria, yellow fever and the plague, it appears reasonable to believe that with the increased number of enthusiastic and able investigators in all parts of the world concentrating their energies upon these diseases, when the year 2000 rolls around the web of mystery that shrouded the infectious diseases of our ancestors will be unraveled and they will be controllable and suppressible and possibly eliminated.

To attain this end it will be necessary that the knowledge

we now possess, together with that continually accruing, must as speedily as possible become universal. For it is usually the individual's ignorance of the cause, its habitat and mode of transmission that leads to exposure and the reception of the contagion or infection.

There should be a steady flow for each individual of this defensive knowledge from the nursery period of his life to the crematory stage. In the Kindergarten should be taught the cleansing properties of water, the life-giving force of fresh, pure air and the bacteria-killing power of sunlight. In the higher grades of the public school should be taught the history of the plagues and pestilences of the past, the discovery and development of the methods of control of the present and the truth regarding foods, drink and medicines. This same knowledge should in some way reach the adult in the shop, factory, mine, farm, ranch and plantation, through sources other than those financially interested.

From our present standpoint, in retrospection we can see but three periods in our evolution: First, the millenia before the time of Jenner. Second, an interval of nearly a century between Jenner and Pasteur during which time the discovery of the yeast plant was the one addition that became a factor of importance to the savant in his solution of the problems of fermentation and putrefaction. Third, the period of the last forty years in which was amassed almost the whole of our present scientific knowledge of medicine and surgery.

Finally, comparing preventive medicine with surgery one writer, speaking of the brilliant attainments of surgery, says: "that the mind that contemplates it is dazzled as the eyes are dazzled by looking at the sun." Now, while we all admit that the improvements and conquests of surgery are great, yet the ultimate results compared with the benefit of an improved sanitation, including all the known measures for the control and suppression of disease, dwarf surgery into insignificance.

Gentlemen, the Twentieth Century invites your best efforts to help hasten the day when these diseases will be entirely eliminated and when civilized people will be expected to die only from unavoidable accident or old age.

CASE REPORTED.

BY DR. CHARLES L. ASHLEY, PLYMOUTH, PA.

READ MAY 6, 1903.

Daniel Johns, age 47. Patient was picked up on the street in a semi-unconscious and dazed condition at 6 p. m. on the night of January 4, 1903. Could not give his name or any other particulars at the time. One physician said alcoholism, another apoplexy or paraplegia. I could not agree with either diagnosis, but suspected acute poisoning of some nature. Patient had already vomited profusely, so nothing more than restoratives were administered. I called the following morning and found the patient perfectly well and obtained the following history.

PATIENT'S STATEMENT.—I went to bed on the night of January 3, feeling well but extremely tired. On the morning of January 4, I experienced the most violent noises in my head, like the pounding of iron. About noon I felt very dizzy and sick at my stomach and about 2 o'clock I vomited. I felt somewhat relieved, but the noises continued and I decided to walk down town. I had gone about two blocks when the sidewalk seemed to come up and strike me in the face. I staggered and fell like a drunken man and knew no more until the doctors came.

Three days after, I was called again and found my patient vomiting and so dizzy that he could not sit up. I was totally at sea, but suspected a tumor or hemorrhage in the cerrebellum. That evening I called again, and my patient was perfectly well, and my diagnosis shattered.

These attacks have occurred about every ten days for the last five months and my patient is gradually losing his hearing in both ears.

At the present time the noises in his head continue with varying intensity, ranging from a cricket's chirp to an engine blowing off steam. The attacks of vomiting last for two and three days at a time, and occur periodically every 10 days.

REPORT OF A CASE OF HEMIPLEGIA FOLLOWING PREGNANCY.

BY DR. ALLAN C. BROOKS, WILKES-BARRE, PA.

READ MAY 20, 1903.

The case I am about to report is that of Mrs. M. J., aged 29, and a Polander.

Very little previous history could be obtained, aside from the fact that she had one child living about 3 years old, besides the infant that was born to her at the time of her fatal illness. She had good health during her gestation, and as labor pains set in February 24, 1903, she sent for a mid-wife, who failing to relieve her, a physician was called in and an instrumental delivery was successfully accomplished about 9 a. m. of February 25th.

The child was alive and everything seemed to be normal until about 3 p. m. of the same day, when the patient went to sleep and could not be aroused, and she lost the power of motion in the limbs on her right side. She remained in this state all the following day, when late in the evening of the twenty-sixth I was called in and found her in deep coma. She had complete aphasia and complete paralysis on the right side. She would move her limbs on her left side at short intervals. The hemiplegia was complete involving all the right side except the orbicularis oculi and the frontalis muscles. The mouth and glottis were pulled to the unaffected side. Pulse 120, full and bounding. Temperature 101. I catherized her and obtained about a pint of clear urine containing not a trace of albumen. She could swallow milk fairly well and took from a quart to three pints a day. Lochia normal throughout her illness.

On the 27th of February I saw her three times, catherizing her each time. At the morning catherization I filed a quart whiskey bottle twice with her urine and the next visit found nearly another quart awaiting to be emptied. Her bowels moved freely after giving calomel, and she would now open and close her eyes.

On February 28 little or no change in her condition. Her pulse ranged from 108 to 120, temperature 100 to 101. But on Sunday, March first, patient put her left hand to her head frequently as though in pain, and at times moved an ice cap that was on her head and would hold a glass in her hand while she drank. Her eyes would follow the movements of people about the room. Her breathing, however, was more laborious and large moist rales could be plainly detected with some oedema of the lungs. Her temperature was 102 and pulse 130, weak and running. The next day, March 2, she was much worse and in the afternoon she died.

I do not believe she had puerperal fever or at least not enough to cause her death. Nor do I believe she had eclampsia as she passed such large quantities of urine and there was no trace of albumen. Her heart valves were normal and the rythm good. My diagnosis, therefore, is complete hemiplegia following pregnancy.

SCARLET FEVER.

BY DR. J. A. JENNINGS, PITTSTON, PA.

READ JUNE 17, 1903.

Scarlet fever is an acute, contagious, self-limited disease, one attack usually protecting the individual through life.

Historical Survey; Prevalence. The original habitat of Scarlet Fever is a matter of uncertainty, although from the earliest records on which any reliance can be placed, and from subsequent data, we are justified in assuming that the disease, at any rate for the past few centuries has shown a marked predeliction for European soil. It is asserted by Collie that scarlet fever existed in the time of Hippocrates and indeed it has been assumed that the plague of Athens was a malignant form of the malady, but the interpretation of the cases quoted in support of these opinions, may be fairly called in question.

The careful investigations of Hirsch led him to believe that the earliest definite record of scarlet fever dates from the year 1543, and he refers to an epidemic which at the time pre-

vailed in Sicily; it is stated by Haeser that the disease was briefly alluded to in the writings of Ingrassia of Palermo in the year 1500.

In the following century, however, we get upon firmer grounds, for clear indications of its prevalence in Prussia during the first half of the seventeenth century is to be found in the writings of Doring and Sennert, and of Winsler and Fehr, although great confusion at that time existed between scarlet fever, measles, erysipelas and diphtheria. This confusion was recognized by Sydenham, who it seems was the first to christen the disease "scarlet fever." His careful description of the disorder, as it pervailed in London during the years 1661 to 1675, not only laid the foundation of an accurate knowledge of its special character, but at the same time clearly differentiated scarlet fever from measles with which it had hitherto been confounded. Morton, however, a contemporary of Sydenham, continued to speak of the disease as "Morbilli Confluentes," being evidently unimpressed by the distinction.

The continents of Asia and Africa, except in isolated localities, have shown but little tendency to provide a field for scarlet fever, but America has by no means been exempt. The disease seems not to have reached North America until the year 1735, when it first appeared in Massachusetts. From thence it spread over the whole of the New England States, reaching New York in the year 1746. In the year 1791 it penetrated into the interior, reaching Canada and the Northern States during the early years of the present century. It was apparently not until the year 1830 that the disease obtained a foothold in South America, since which time it has become generally diffused over the continent, where it often appears in wide-spread epidemics, characterized at times by considerable malignancy.

According to Hirsch, scarlet fever appeared in Polynesia for the first time in 1848; it arose simultaneously in New Zealand and Tasmania, whence it spread to the Australian continent a few years later.

The prevalence of scarlet fever in an epidemic form on the Continent of Australia is not common, whereas from the populous districts of North America it is never absent.

The records go to prove that in this country scarlet fever is least prevalent in the months of March and April; after which a slow and steady rise takes place until the mean is passed at some time during the month of August.

A rapid extension of the disease occurs in September and October, reaching its climax usually during the last week of the latter month. From the beginning of November there is a steady decline, dropping more rapidly during December until the mean is reached again, either towards the close of that month or during the first two weeks of January.

It will be seen that the prevalence of scarlet fever is above the mean, during the last five months of the year, and that it is below the mean during the first seven. This statement is somewhat arbitrary, as Whitelegge states that in New York the seasonal curve of the disease is entirely reversed, and in Australia its diffusion is much more variable. The regular seasonal variation of scarlet fever is suggestive of some climatic influence, yet it is impossible to establish any association with either temperature, latitude, dampness or soil.

Epidemic, Type, Fatality. All the records of Scarletinal epidemics in the past go to prove that the fatality of the disease in different outbreaks has been subject to enormous variation. It has been occasionally noticed that the type of attack has undergone a distinct change during the course of a particular epidemic, the tendency being for the attacks to become milder at the close of the outbreak; the type of the disease may, however, remain constant for many years in a particular locality.

Spread and Infectivity. The contagious element is always derived from a previous case, in most instances by the direct inhalation of the breath, or of air charged with minute particles of shed epithelium or of the dessicated discharges from some mucous cavity.

The virus may be conveyed by various aricles, such as books, clothes, toys, furniture, bedding, parcels and letters; such articles are capable of retaining the contagion in a potentially active form for long periods. The following case is of interest: The facts are that the father staying in the house of a friend

met, on the platfrom of a railway station thirty miles away, his son who came to this station from a school in which scarlet fever was then prevalent. The two spent an hour and a half together and then returned to their respective quarters. Within the next four days the lady of the house to which the father returned, fell ill and died of malignant scarlet fever. The father and son remained well.

The scarlet fever patient is capable of imparting infection from the commencement of his illness. It is a good rule in practice to regard six weeks from the rash as the minimum length of quarantine, yet each case is dependent upon the feeling, and cessation of any discharge from the ears, nose, eyes, a mucous cavity or a wound of any description. The patient is most infectious when the disease is at its height, and at the decline of a febrile stage, when a fine powdering is noticeable on the face and other parts.

Individual Susceptibilty. This varies with age, sex, state of health, idiosyncrasy and previous attack. Of these factors the first and last are most important.

Age. During the first year the liability is not very great, but from birth there is a rapid increase until the maximum is reached during the fifth and sixth years; from this time a gradual diminution sets in.

Sex. The influence of sex is not very great. Females are attacked more frequently than males in the proportion of eleven to ten.

State of Health. The liability to attack is increased by the presence of recent attack of any acute disease, especially diptheria, tubercular or strumous, or other dyscrasia.

Incubation. In the large proportion of cases the period between exposure and the first appearance of the febrile symptoms, has been either two, three or four days.

Invasion. The attack as a rule develops with considerable rapidity. In addition to chills, weariness, aching pains, coated tongue, loss of appetite, broken rest, etc., there are three symptoms which are eminently suggestive of commencing scarlet fever, namely: sore throat, headache and vomiting; of these

sore throat is the most constant in children; in adults, headache.

Clinical Varieties. Simple, septic, toxic, of these the two latter are by far the most grave.

Simple. The symptoms of this, the most common variety, are usually ushered in with moderate severity, after twenty-four hours; the rash is first seen on the neck and chest, and thence spreads over the entire body.

Faucial discomfort, and difficulty in swallowing are complained of, attended with pain running up into one or both ears. Along with the increase in faucial discomfort the rash continues to extend, the pulse to increase in frequency, and the temperature to rise, until a climax is reached on the third or fourth day of illness, by which time the tongue presents the characterisic strawberry appearance; then or a day later defervescence sets in, attended with a gradual improvement in all directions.

Septic form. This form often designated Scarlatina Anginosa or Scarlatina Ulcerosa, most commonly affects young children. It is characterized by an ulceration which, though invariably commencing in the tonsils, may by its extension lead to widespread destruction of the neighboring parts. The process is attended with the gradual development of the symptoms of septicemia.

After the signs of invasion have persisted for about twenty-four hours the eruption appears; it is intense and somewhat dusky, often patchy, shows a tendency to staining, which may go on to the formation of definite petechiae; the temperature rises rapidly, and by the fourth day may reach 104 degrees. The surface of the tonsils often presents necrotic patches, or they may be covered with an exudation which is likely to be mistaken for diphtheria.

The temperature remains high, and it is of an irregular remittent type. The exudation or superficial slough gives way to definite ulceration, attended with infiltration of the subjacent lymphatic glands and cellular tissue, which may encircle the neck like a collar. Toward the end of the second week a

morbilliform eruption of septic origin may appear on the cheek, buttocks and extensor aspect of the larger joints, and the case may rapidly prove fatal. Further evidence of the septic nature of the case is profuse diarrhoea, restlessness, delirium, sweating, pulmonary congestion, broncho-pneumonia, wasting and albuminuria.

Toxic Scarlet Fever. Often described by the terms scarlitina maligna, ataxic or adynamic scarlet fever. In this form the patient dies even before the typical symptoms of the disease show themselves. The rash, if present, is ill developed, the pulse is extremely rapid and feeble, and the temperature may be subnormal, death commonly taking place on the fifth or sixth day.

Differential Diagnosis. If attention be paid to the symptoms, a well developed case can hardly be mistaken for any other disease. The diseases with which it may be confounded are tonsilitis, diphtheria, measles, influenza, erysipelas, erythema, desquamative eczema, and the rashes of belladonna and copaiva.

Prognosis. The fatality is greatest in childhood, from which time it diminishes, until about the twenty-fifth year when it shows a slight increase in relation to advancing years. The combined mortality in males, at all ages, is greater than it is in females by one per cent.

Ulceration of the fauces, attended with gland infiltration, rhinorrhoea, high temperature, are indications of the septic form which the disease is assuming. Hyperpyrexia, extreme restlessness, a vivid rash and persistent vomiting, tremor, early obscuration of mind are evidences of a toxic attack, and of consequent danger to life. About 80 per cent. of cases showing a septic eruption are fatal.

Complications. The large proportion of deaths attributable to scarlet fever, are due rather to the severity of the attack in its acute stage, than any of its later developments, the complications being of considerable importance, for if neglected, may lead to permanent impairment of health. The complications worthy of especial mention are otitis, albuminuria and

acute nephritis, the albuminuria and nephritis being different degrees of the diseased process.

Otitis may arise any time after the first few days of the attack, the distinctive signs being pain in the ear, tenderness over the cartilaginous portion of the canal, irritibilty of temper, with fever, followed after one to three days by rapid loss of pain, tenderness and fever on the appearance of the discharge; the discharge usually ceases after two to four weeks' treatment and the perforation rapidly heals.

In some cases an inflammatory swelling appears over the mastoid bone, attended with fever and intense tenderness. It will be found to depend either upon a periadenitis which often suppurates, or as is more common upon the formation of a subperiosteal abscess connected with carious bone and the presence of pus in the mastoid cells.

Acute Nephritis. It is not easy to draw a line between certain mild cases of nephritis and those of simple albuminuria. The symptoms comprise headache, vomiting, often a rigor, drowsiness, elevation of temperature to 103 or 104 degrees, the appearance of blood in the urine, and a greater or less degree of suppression. The skin is hot and dry, pulse excitable, respiration rapid, the tongue dry, and there is usually evidence of slight anasarca, best seen in the face, loins, hands and feet.

Pathology. Scarlet fever is in all probability dependent upon the vital activity of some micro-organism, the organism seems to be a streptococcus, which has been isolated by Dr. Klein, from the blood and tissues of persons suffering from scarlet fever. It is contended by many practiced bacteriologists that Klein's streptococcus, like that of erysipelas and puerperal septicemia, is neither more or less than the streptococcus pyogenes under a different name. Whether the multiplication of the poison takes place in the blood or in any particular organ or tissue is unknown. In all probability it is the blood which provides the field for the multiplication of the virus, as would seem to be the case in typhus and relapsing fever.

The rash is characterized anatomically by an active hyperemia of the cutis vera attended with a certain degree of cap-

illary stagnation and considerable inflammatory oedema. Transudation of leucocytes, and a variable amount of blood pigment into surrounding tissue, next occurs, attended with a rapid proliferation of the cells of the malphigian layers. Desquamation is brought about by the effusion of serum between the cells of the epidermal layers, just superficial to the rete mucosum, in virtue of which their mutual cohesion is weakened and actual separation occurs at the point of effusion. This is best marked in those papules which actually become vesicular. The eruptive hyperemia also induces a trophic change in the rete mucosum, which is characterized by excessive proliferation of its component cells. In this way the shed epithelium is rapidly renewed.

The appearance of the kidneys shows considerable variation. In a certain number of cases the kidney to the naked eye appears normal, with the exception of a cloudy appearance on section, and a great deal of congestion throughout its substance, which may be noticed in persons who have died from any acute fever.

Treatment. There is no specific treatment for scarlet fever. After placing the patient under the best possible conditions for recovery, treatment should be directed to the relief of distress, and to combat any symptoms which by its severity may prejudice the course of the attack and to avoid complications. The air of the room should be kept as dry as possible, and maintained at a temperature of from 56 to 60 degrees. A warm temperature is more important during convalescence than during the acute stage. During the febrile stage linen should be worn next the skin, during convalescence flannel should be substituted.

The surface of the body during the acute stage should be washed daily with soap and water, and the action of the skin encouraged by occasional tepid sponging, care being taken to avoid unnecessary exposure of the surface. It is usual to give a febrifuge mixure containing either bitartrate, or nitrate of potash, and acetate of ammonia, combined with spirits nitrous ether, and a little syrup of orange or lemon peel. The bowels should be encouraged to act daily, nothing

being nicer than liquorice powder, or confection of senna and sulphur. The diet should mainly consist of milk and beaten up eggs; the addition of a little soup, beef tea, mutton or chicken broth is welcome and will do no harm. As soon as the temperature has fallen a more liberal diet is permissable; bread soaked in milk, custard milk pudding, lightly boiled eggs, and thin bread and butter devoid of crust may be added. Local treatment of the throat should be rigidly enforced, irrigate or spray the throat every few hours with some mild antiseptic fluid, nothing being better than an acid solution of chlorate of potash. Insomnia, restlessness and delirium should be relieved by cold or tepid sponging. If this fail, opium, sulphonal or chloralamide may be tried. Diarrhoea appearing late in the disease should not be neglected; for such Dover's powder and bismuth subnitrate should be given, and repeated if necessary. For the otitis, the ear should be irrigated with water as hot as can be borne; afterwards a few minims of laudanum or glycerite of carbolic acid may be dropped into the canal. When this fails a few drops of a 5 per cent. solution of cocaine in liq. atropia proves effectual, if any bulging of the drum is detected, incise at once, though somewhat difficult in the young. The treatment of albuminuria and nephritis should be directed towards the encouragement of a free action of the other excretories, the skin and bowels, and towards lowering the arterial blood pressure, sulphate of magnesia or soda, the compound powder of jalap, elaterium, or scammony may be employed, the re-establishment of the urinary secretion, attended by a fall in the blood pressure, the disappearance of oedema, and a normal temperature are the signs to be looked for.

AMENORRHEA DUE TO CONSTIPATION.

CASE REPORTED BY DR. D. GUY ROBINHOLD, FORTY FORT, PA.
READ JUNE 17, 1903.

The case that I have to report this evening is one of Amenorrhea due to Constipation. The constipation in this case was most remarkable.

Patient. M. S. White. Age, 19. Female. Dressmaker by occupation.

Patient first came to my office January 20, 1902, complaining of a continuous dull headache and at times of hot flashes passing through her body.

Upon examination I learned that her bowels had not operated for more than two weeks prior to coming to see me, and that she had not menstruated for a period of six months. At that time menstruation lasted but one day, the flow being scanty.

Menstruation was established at the age of 15; it was regular for about six months, then became irregular. She informed me that her bowels had not operated for periods of three weeks or more.

Her general appearance indicated good health, weighing about 150 lbs. Her appetite was good. I did not make a blood examination, but started at once to treat her for constipation. I ordered for her a capsule containing the following:

R. Ext. cascara sagrada, gr. ℈
Ext. nux vomica, gr. 1|4.
Ext. physostigma, gr. 1|15.
Ext. hyoscyamus, gr. 1|6.

Sig. One capsule to be taken night and morning, followed the first morning by one bottle of the Citrate of Magnesia. In addition to this I ordered her to massage the abdomen upon retiring at night and before arising in the morning. To exercise freely, and drink freely of water, especially shall she drink two glasses before breakfast. Her diet was of a vegetable character almost exclusively. I ordered her to respond immediately to rectal calls and to go to the closet at a regular time

each day and make an effort to evacuate the bowels whether successful or not. I again saw her two days later when she told me that her bowels had not operated. I ordered her to continue with the treatment and take another bottle of the Citrate of Magnesia. I again saw her the following evening when she told me that her bowels had operated twice and each movement being large and soft. I continued the treatment and saw her again one week later. During this period she had been having one evacuation of the bowels daily. I next saw her one week later, her bowels having operated about every second day and she had menstruated during the past week, menstruation lasting 4 days, the flow being about normal. After this I lost trace of the patient until eight months later she again came to me complaining of the same trouble as before. She said her menses and bowels had been regular until two months ago when they became irregular. Upon examination I learned that she had neglected her treatment. I ordered the same treatment to be carried out that was used during the last attack. The patient finally made a complete recovery.

SUBDIAPHRAGMATIC ABSCESS WITH APPENDICITIS.

BY DR. C. P. STACKHOUSE, WILKES-BARRE, PA.

READ SEPTEMBER 2, 1903.

On the 21st of April, 1899, J. B. White, age 25, teamster, was admitted to Dr. Musser's wards in the Philadelphia Hospital complaining of pain and tenderness in the epigastrium.

He gave history of an attack of colic three weeks prior to admission, which was relieved by Jamaica Ginger, but the next day there was an attack of excrutiating pain in the epigastrium which doubled him up and caused him to fall to the floor. This pain radiated up his right side to the shoulder and up the right side of his neck to the back of his head. The attack lasted only a few minutes and since then the pain has been confined to the epigastrium. His bowels were constipated before the attack, but afterwards were quite loose. He was not jaun-

diced at any time. About two weeks before admission he developed a slight hacking cough.

Upon admission the abdomen was somewhat scaphoid, recti muscles quite rigid. There was a prominence in the epigastrium continuous with liver dullness above and extending down to one and one-half inches above the umbilicus, which did not move with respiration but was extremely tender to touch.

The right lung showed flatness from about one inch below the scapula posteriorly and the fifth interspace in axillary line down to the base. Tactile fremitus and breath sounds were absent in this region. Just above this area, up to about the angle of the scapula or a little above, there was a tympanitic note, bronchial breathing, broncophony and pectoriloquy, and again above this area the lung was quite normal.

The left lung presented nothing abnormal. Liver dullness was continuous above with the flatness noted at the base of the right lung and in the axillary line extended down to the costal margin; in front it was continuous with the mass in the epigastrium extending down to about one and one-half inches above the umbilicus. There was tenderness over the whole area.

For three days the patient's condition remained unchanged. On the afternoon of the third day he had a violent attack of coughing which lasted the whole afternoon. During the attack he expectorated large amounts of yellow, vile smelling pus, which caused a great deal of irritation to his throat. After this time the patient was unable to lie down as he would immediately begin coughing and expectorating large amounts of pus. Microscopically this pus showed diplocci and a bacillus resembling the colon bacillus.

He tried to drain the pus cavity by lying down twice a day and allowing as much pus as would to run out, but this only gave a few hours' relief. After he had drained the cavity in this manner a succussion splash was elicited.

The temperature was normal on admission and varied between 98.2 degrees and 102 degrees except on the evening fol-

lowing the attack of coughing, when it reached 103 degrees. A blood count was made and showed, red cells 3,500,000; white cells 16,500. Haemaglobin 65 per cent.

The patient kept gradually growing weaker and as an empyema was suspected Dr. Frazier was called in and advised immmediate operation. A quart or two of thin, greenish, fecal smelling pus was evacuated through an incision in the axillary line between the sixth and seventh ribs. The patient was greatly relieved by the operation and could lie down after it, although he continued spitting up a small amount of pus similar to that expectorated before operation.

After a few days he began to fail and died on May 3d, twelve days after admission.

At the post-mortem, performed by Dr. Riesman, upon opening the abdominal cavity, the omentum was found well stretched over the intestines, and was adherent by fairly firm adhesions to the sides of the abdomen. There was quite an extensive pelvic peritonitis. The coils of small intestine, chiefly ileum, being bound down against the posterior wall of the bladder and to the sigmoid flexure and rectum. The appendix was bound down for almost its entire length to the caecum and outer surface of ascending colon, the tip being free for about one inch. Upon separating the appendix from its adhesions a small abscess cavity was found containing about a thimbleful of yellow, non-odorous pus. At the point 2½ cm. from its tip, on the side toward the colon, there was an opening in the appendix communicating with the abscess cavity just described. The perforation was within one cm. of the free portion of the process. The appendix pointed upward, its apex being 5½ cm. from the liver margin. The boundaries of the abscess cavity described were the outer surface and lower part of the ascending colon on the inner side and the appendix on the outer side. At a point 5 cm. below the ensiform cartilage, just at the junction of the right and left lobe of the liver, there was an abscess cavity bounded posteriorly by opposing surfaces of the liver at the fissure, and anteriorly by the anterior abdominal wall. The cavity was lined with lymph and connected by a short sinus

running through bridge between right and left lobes of liver with another cavity bounded by the left lobe of the liver above, and the lesser curvature of the stomach below. This abscess, discovered only when adhesions between the stomach and under surface of the liver were broken up, was lined with a deposit of lymph on the stomach and under surface of the liver and contained an opaque bile-colored fluid which seemed to come from a pea-sized opening in the lesser curvature of the stomach.

Whether this opening was originally present or was made during dissection could not be definitely determined, but when the stomach was removed and examined more closely nothing abnormal could be found in the edges of the perforation on the gastric surface, but on the serous surface the opening was at the bottom of a large ulcerated area. The edges of this opening had attached to it numerous shields of tissue, apparently mucuous membrane which, when the stomach was floated in water, seemed sufficient to close the opening from the gastric surface. It is apparent that the wall of the stomach in this position was extremely thin, if not perforated from ulceration coming from the serous surface.

Between the right lobe of the liver and the diaphragm there was an abscess cavity about as large as a fetal head and lined with a thick deposit of fibrinous lymph, but at the time of the autopsy the cavity contained no pus at all. The inner and lower walls of the abscess cavity were formed by the right lobe of the liver covered with lymph, and the outer and upper walls were formed by the diaphragm with a similar covering of lymph. Upon blowing into the right bronchus air was seen to escape from the diaphragmatic surface of the abscess by four openings. In the outer wall of the cavity there was a vertical opening about 4 cm. long which was made by the surgeon at time of operation. There was also an accumulation of pus on the posterior surface of the right lobe of the liver but separated from the other abscess cavity by the capsule of the liver.

The right lung was adherent throughout and especially so at the diaphragm, and it was pushed up so that the lower

boundary was at the fifth interspace. The anterior edge of the lower lobe for a vertical distance of 7 cm. and a horizontal distance of 3 cm. was dark green and gangrenous in appearance, but not gangrenous in odor. The lobes were all adherent and the antero lateral surface of the lower lobe for some distance above the opening into the abscess cavity was covered with a thick, firm deposit of greenish membrane which could be readily peeled off. The gangrenous process already described extended a slight distance into the lung.

In the middle of the lower lobe, toward the posterior convex edge, there was a large gangrenous cavity filled with a very offensive, dirty green, granular material. The abscess extended quite widely into the substance of the lung, radiating toward the apex and slightly downward, and came very near to the surface. The bronchial glands were enlarged.

The left lung was adherent posteriorly, especially over the lower lobe. The two lobes were adherent to each other and upon section of the lower lobe was seen to be the seat of scattered areas of consolidation varying in size from a pin point to a pea. They were grayish in color and elevated above the surface. They were not marked in the upper and middle portion of the lobe, but were quite numerous in the lower part. These abscesses did not seem to be connected with the bronchi, but rather radiated in the line of the vesesls of the lung.

In the lower lobe just over the pleura there was a gangrenous area the size of a cherry filled with the most offensive dirty green almost fecal looking material. The lower portion of the lower lobe was deeply congested and splenified and pieces sunk in water.

The mesinteric glands were greatly enlarged and the small intestines showed some enlargement of the Pyers patches and congestion of the mucous membrane.

Biological examination made by Dr. Boston showed, from abscess in right lung, streptococci and a few diplocci. From abscess of appendix colon-bacillus. From small abscess between right and left lobes of liver colon-bacillus.

CASE REPORTED

BY DR. H. A. FISCHER, WILKES-BARRE, PA.

READ SEPTEMBER 2, 1903.

J. K., age eleven years; white, male. Birthplace, Wilkes-Barre. Was brought to my office on the evening of July 14th, 1903, and gave the following history:

On Thursday, July 2d, while playing with a blank cartridge pistol, patient was injured by a charge from the pistol striking and entering the palmar surface of the left hand just above the fourth metacarpo-phalangeal articulation. He immediately secured the services of a physician, who, according to the boy's story, washed and packed the wound. This was repeated several times, until on the tenth day following the injury the physician removed from the wound the wad and copper shell of the cartridge. On the evening of the eleventh day after the injury the patient says he felt a stiffness and soreness affecting the right and posterior part of the neck. The following morning both sides and back of the neck were involved. The evening of the same day he reported to my office, presenting the above symptoms, also a stiffness of the legs and the features assuming the characteristic "sardonic grin." The wound was about three-eighths of an inch in diameter with blackened, irregular sloughing edges, and extended backward and upward. After cleansing the wound and dressing with a bichloride dressing, the patient was sent to his home to be placed in absolute quiet, and potassium bromide, thirty grains, was given every three hours. The following morning the muscles of the back and abdomen were also affected and the patient was having spasms in which a condition of opisthotonos was assumed, permitting the closed hand to be placed between the patient and the bed. On the morning of July 16th, assisted by Dr. Grosser, I opened the hand by making an incision 1½ inches long following the line of the tendons, thus exposing the interior of the wound. Grains of powder and particles of wad were found imbedded in the tissues. These were curetted or snipped away with the scissors until appar-

ently a perfectly clean wound was assured. Following this there was a retention of urine, necessitating catherization every eight hours for the following twelve days. The urine was high colored and scanty. July 18th: Patient constipated; laxatives and enema of no avail, digital examination showing rectum packed with feces which were removed by force.

During the period of constipation there appeared on the abdomen several rosealor spots, disappearing on pressure, and resembling very much those of typhoid fever. The temperature, which up to this time had ranged between normal and 100 degrees F., advanced suddenly to 102 2-5 degrees; the pulse 120, these symptoms disappearing when constipation was relieved.

Relaxation of the muscles, disappearance of spasms began about the 26th of July. At this time the patient wanting to be up, his father placed him on a chair near the window. He returned to bed, spasms and rigidity were marked for another week. From this on the patient made an uneventful recovery, relaxation beginning in the arms, legs, abdomen, neck, back and finally the jaws, the patient being allowed out of bed after five weeks' confinement.

Treatment.—The local treatment, which has been mentioned, was followed by rapid healing of the wound. The treatment was purely symptomatic. Chloral hydrate gr. v every three hours was given in addition to the bromide solution above mentioned. On three occasions, when the chloral seemed to lose its effect, Morphine Sulphate, gr. 1-4, Atropine Sulphate, gr. 1-100, were administered hypodermically. On one occasion, the pulse being very weak and rapid, Digitalin, 1-50 gr., Nitro-glycerine, 1-100 gr., were given every two hours until effective. Chloroform inhalations were given when needed to control spasms.

Nourishment.—This consisted of Panopepton (℥ss—℥i) every two hours, milk, broths, etc. At no time was it necessary to resort to rectal feeding or administration of drugs, the patient being able to swallow quite well.

THE BORDER-LAND OF SCIENCE.

BY DR. J. P. GILLIGAN, WILKES-BARRE, PA.

READ SEPTEMBER 16, 1903.

To show that there is such a territory, we have only to name a few of its inhabitants, such as mesmerism, animal magnetism, hypnotism, mind-reading, faith cures, fortune-telling, spiritualism, including table-rapping, spirit-rapping, most of which have been used in connection with medicine. It is a region occupied chiefly by imposture and superstition.

I do not maintain that all of these are mere empty shadows without the least reality, mere ghosts and phantoms of the heat oppressed brain, or cunning devices of imposters to deceive a crowd of the ignorant public. Yet most of these are such beyond a doubt, and as such are totally unworthy of our attention.

Medicine is a science; it deals with undoubted facts and certain principles, and with theories so far as they are supported by well ascertained realities.

The border-land of which I speak, presents to our investigations few certain facts. It is chiefly the domain of imposture. Charlatans and showmen and medical quacks call things facts that are not facts.

Among all the inhabitants of the shadowy region that I have mentioned there is only one considered to-day by the science of medicine as worthy of its attention. It is hypnotism.

About 1840 the vaunted claims of the many clairvoyants were exposed before the French Academy of Medicine, which passed a resolution rejecting mesmerism altogether as unworthy of notice on the part of scientific men. The theory of a mesmeric fluid, until then the only one advanced, had to be abandoned. In 1842 an English physician, Dr. James Braid, hit upon a more plausable theory. He conjectured that the actions of the mesmeric subject could be explained without a fluid by the suggestion of phantasms to him on the

part of the mesmerizer. Dr. Carpenter, then a great authority, defended his theory; but the medical branch of the British Association disdained to consider the matter. Dr. Braid thought the mesmeric trance was only a state of somnambulism, artifically brought about, and he coined the word hypnotism to indicate the artifical sleep.

Other attempts to promote the cause of hypnotism were made in the United States and other lands, but no very definite or scientific results were reached until 1878, when the celebrated Prof. Charcot made its nature the subject of a thorough study and abundant experimentation at one of the hospitals in Paris. At present it is admitted by distinguished medical scientists that hypnotism is a reality, capable of being utilized for important purposes.

The Paris School of Doctors attribute the effects to physical causes, chief among which are the diseases of the nerves. Others trace the phenomena to a physical cause, namely to suggestion that is action on the subject through his imagination excited by words, signs or in any other manner. This appears to be, in the main, the theory advanced by Dr. Braid and vindicated by modern scinece. The beneficial results claimed for hypnotism by the scientific men who have made its study a specialty, are chiefly as follows:

It acts as a temporary sedative, quieting the excited nerves of the patient. It has been used as an anaesthetic in place of chloroform or ether, which in many cases cannot be applied without great danger to health or even life. Thus perfect insensibility may be procured and long continued, allowing sometimes the performance of protracted surgical operations that would otherwise be almost impossible. At other times it is employed as a mere pain-killer, without depriving the patient of consciousness, so that the hurt is felt but not attended with keen suffering.

It is claimed that the skillful application of hypnotism can, at times, not only alleviate the pain of an injury, but even cure nervous affections more or less permanently, removing, for instance, the defect of stammering.

There are not wanting cases in which even moral improvements are claimed to be produced, at least in the removing of bad habits, such as drunkenness. If hypnotism can cure intoxication permanently or even for a season, it deserves to be encouraged. If any distinguished scientist or doctor who can afford it wishes to make a special study of hypnotism, which is still so imperfectly understood, he may render a valuable service to humanity and in particular to the science of medicine. But the best thing for any ordinary physician to do with hypnotism is to leave it alone.

Medical authorities maintain that it requires at least as much knowledge of therapeutics to use hypnotism safely as it does for the general practice of medicine, and therefore that it is as objectionable to allow non-professionals to deal with hypnotism as it would be to allow medical practice promiscuously to all persons without a doctor's diploma. In fact, in Russia, Prussia and Denmark none but a licensed physician can lawfully practice hypnotism.

Aside from the variety of accidents which may result to the subject hypnotized, from the ignorance of physiology in the hypnotiser, there is the general injury sustained, that even strong subjects frequently experimented upon contract, a disposition to be readily thrown into any of the three morbid states of the mesmeric trance, which are lethargy, catalepsy, and somnambulism. The moralist has still stronger objections against the use of hypnotism, except when it is used as a means to most important results. He maintains that one of the greater evils that can befall a man is the weakening of his will-power; this leaves him a victim to the cravings of his lower appetites. Now, the frequent surrender of one's will to the control of another is said to bring on a weakening of the will or self-control. We see this exemplified in the habitual drunkard. He loses will-power to such an extent that he can scarcely keep his most solemn promises or withstand the slightest temptations. There is a very serious question asked by the moralist upon another resemblance of an hypnotic subject to a drunkard. He asks whether any man has a right

for the amusement, perhaps of the curious looker-on, to forfeit for awhile his manhood, or the highest privilege of his manhood—his powers of intellect and free-will. Drunkenness is the greater evil and the degradation, lower, inasmuch as the baser passions are then left without all control. The hypnotic subject has at least the mind and will of the hypnotizer to direct him. Here, however, appears the need of another caution, namely, that the hypnotizer should be known to be a virtuous man; else the evil that he can do to his subject, as is readily seen, may be even worse than that resulting from a fit of drunkenness. And as men who occupy even respectable positions may yet be vile at heart it is very desireable for prudence sake to have no one hypnotized in private without the presence of a third party who will see to it that nothing improper be suggested during the trance. For the scenes gone through during the hypnotic state, though not remembered by the subject upon his return to consciousness, are apt to recur to him afterwards like a dream, showing that they have left traces behind them. Legal writers and lawyers have serious charges against hypnotism. This practice, they maintain, if publicly exhibited to young and old, begets dangerous cravings for sensational experiments. Turning away men's attention from the sober realities and duties of life, it prompts them to pursue the unnatural and abnormal. It was this craving that in less enlightened ages, led men to the superstitious practice of astrology and witchcraft. At present, it leads to such unchristian and often immoral practices as are connected with spiritualism, faith-cures, mind-reading, and similar foolish or criminal or at least dangerous experimentation which dive into the dark recesses found in the border-land of the preternatural. The atmosphere of that region is morally unhealthy and should be barred off by the guardians of public morals.

The most common objections of legal writers is directed against the various crimes to which hypnotism is apt to lead men of criminal propensities. A patient under the influence of hypnotism can be made to swallow poison, to inhale noxious gases. He can be led to make a manual gift of property,

even to sign a promissory note or any kind of contract. In criminal matters a man under suggestion can bring false accusations and earnestly maintain that he has taken part in some horrible crime.

Of clairvoyance, mind-reading, palmistry, spiritual science cures we have no certain facts, but we have many impostures connected with them. If ever we get real and undoubted facts proved to be connected with them we ought to examine them with care. Science is not afraid of any portion of nature; all it dreads is ignorance, and what is worse, error.

Error with regard to facts may be committed in two ways —by admitting as facts what are not facts, and by denying facts. Now, there are facts certain and well ascertained, numerous and widely known, connected with some other portions of the border-land of science that we have not yet looked into. He who would assert that spiritism, table-turning, spirit-rapping, and so on are mere idle talk, sheer imposture, is not well read in the literature of the present day. By denying all reality in these phenomena he strays as far from the truth as if he allowed himself to believe mere fabrications. They are not impositions, but they are worse, they are superstitions. By superstition I mean here the practice of producing results which cannot possibly proceed from the powers of nature, and which could not without absurdity be attributed to the interference of the Creator or His good angels.

Some persons strenuously object to introducing any reference to God in scientific works. Science consists in tracing known effects to their true causes. If there were no God He could not be a true cause and it would be unscientific to introduce His agency. But if there is a God and He acts in the world which He has made we must take His actions into account when we study His works. Some say "I do not believe in a God. "But that does not prove that there is no God. Belief is a man's free acceptance of what is proposed to him on the authority of some one else. Students have most of their knowledge on the authority of their professors and other men of learning. If a medical student would say

"I do not believe in microbes nor in contagion by disease germs," that would not kill the germs nor protect him against contagion. Nor would it show his superior wisdom but rather his extravagant conceit and ignorance. So with those who believe not in God.

There are others who do not believe in the existence of devils and fallen angels. That is not so bad; but they must remember that their refusal to believe in devils does not prove that there are none. The greatest enemies to science are those who blindly maintain false principles and false statements of knowledge. Let us look for the truth in every investigation.

All this must be remembered when we undertake to explore, as we are now doing, the unknown region which we have called the border-land of science. There we find many strange phenomena and we are trying to discover their true nature and true causes. If we can explain some of them by natural causes, as by the power of the imagination when it is in an abnormal or hypnotic state, very well, let us explain them. But let us not rashly conclude that all other phenomena can be thus explained. Do not reason this way, as some writers have done, "Some effects, they say, were formerly attributed to witchcraft or deviltry and can now be explained by hypnotism. Therefore all other mysterious effects can also be thus explained. Therefore there is not and never was such a thing as witchcraft or deviltry. So, too, some events often reputed miraculous can be explained by natural causes therefore no miracle has ever happened." That is the reasoning of rash and ignorant men and not of scientific minds. It does not follow from the fact that God usually works by natural causes that He cannot on special occasions and for very important reasons show His hand, as it were, and act so manifestly against the course of nature as to show us that it is He who is at work and He wants us to mind Him. History furnishes many instances of this kind. Scientific men in their investigations may and do find in the border-land of science facts which reveal the agency of intellectual

beings distinct from men and too vulger in their manifestations to be confounded with God and His blessed angels. Such agents in Scriptures are called devils and intercourse with them is styled superstition, seeking their assistance is magic or witch-craft and consulting them is fortune-telling. All these practices are directly and strictly forbidden in the Scriptures.

Some of these effects are connected with bodily cures and thus are of interest to physicians. For instance, spiritualistic mediums, whether connecting their practices with magnetism or not, though entirely ignorant of medicine, are at times able to state the exact bodily indisposition of sick persons living at a great distance, put into communication with them by holding some object belonging to them. They will indicate the seat of the disorder, its nature and progress, its complications. They propose simple and efficacious remedies, using not infrequently technical terms which are certainly unknown to themselves before. They manifest the thoughts of others, reveal family secrets, answer questions put in languages of which they know nothing. To deny facts attested by thousands of witnesses of various nations, belonging to various religious denominations or professing no religion at all, is not the spirit of science. It is certain that much, very much imposture is mixed up with many undeniable facts, but that does not dispose of the real facts mixed up with the impostures. Tyndall once caught an ill-starred spiritualistic imposter at his juggling. He coucluded that all other spiritists were imposters. The world now laughs at him for his foolish reasoning.

What must we think of the nature of spiritism, with its spirit-rappings, table-turning, spirit-apparitions and so on? Can such of the facts as are not impostures and realities be explained by the laws of nature, the powers of material agents and of men? All that could possibly be done by the most skilled scientists, by the most determined materialists who believe neither in God nor demon, as well as by the most conscientious Christian, has only served to demonstrate to perfect

evidence that effects are produced which can no more be attributed to natural agency than speech and design can be attributed to a piece of wood. One principle of science throws much light on the nature of all those performances, namely, that when the effect shows knowledge and design, the cause must be intelligent. Now many of the marvels evidently show knowledge and design; therefore the cause is certainly intelligent.

A table cannot understand and answer questions; it cannot move at a person's bidding. A medium cannot speak in a language he has never learned, nor know the secret ailment of a patient far away, nor prescribe the proper remedies without knowledge of medicine. Therefore these effects, when they really exist, are due to intelligent agents, agents distinct from the persons visibly present; invisible agents; therefore, spirits of another world.

Who are these agents? God and His good angels cannot work these wretched marvels, the food of a morbid curiosity; nor could they put themselves at the disposal of impious men to be marched out as monkeys on a stage. The spirits which are made to appear at the seances are degraded spirits. Spiritualists themselves tell us they are lying spirits. Those lying spirits say they are the souls of the departed, but who can believe their testimony if they are lying spirits, as they are acknowledged to be? The whole combination of impostures and superstition is simply the revival in a modern dress of a very ancient deception of mankind by playing on man's craving for the marvellous.

Many imagine these are recent discoveries peculiar to this age of progress. This, however, is not the case, for spirit-writing is and has been for centuries extensively practiced in benighted, pagan China, while even Africans and Hindoos are great adepts at table-turning. It is simply the revival of an ancient witch-craft, which Simon Magus practiced in St. Peter's time; which flourished in Ephesus while St. Paul was preaching the Gospel there. It is still more ancient. These were the abominations for which God commissioned the Jews

in Moses' time to exterminate the Canaanites and the other inhabitants of the Promised Land.

In the book of Moses, called the Second Law, admitted as divine by Catholics, Protestants and Jews alike, we have this fact very emphatically proclaimed by the Lord. He says: "When thou art come into the land which the Lord thy God shall give thee, beware lest thou have a mind to imitate the abominations of those nations; neither let there be found among you any one that consulteth soothsayers, or observeth dreams and omens, neither let there be any wizard, nor charmer nor any one that consulteth fortune-tellers, nor that seeketh the truth from the dead."

Is not this just what spiritualists pretend to do? Many call it only trifling and play. The Lord does not. The Scriptures continue: "For the Lord abhorreth all these things, and for these abominations He will destroy them at his coming." I certainly do not mean to say that all that passes for spiritualism is thus downright deviltry to-day, nor was it in pagan times. Much imposture is mixed with it.

The oracles of the pagan gods and goddesses were not all the work of the pythonic spirits. Much was craft of the priests of idols; and yet all were abominations before the Lord, on account of the share that Satan took in the deceptions.

What must be the attitude of the scientific men towards all such matters? It should be an attitude of hostility and opposition.

Science should frown down all impostures and superstition. Medicine in particular, intended to be one of the choicest blessings of God to man, should not degrade its noble profession by pandering to a vulgar greed for morbid excitement. Not only will you personally keep aloof from all that is allied to quackery and imposture but your powerful influence for good will be most efficient in guarding others against such evils, and even perhaps in withdrawing from such associations those who have already got entangled in dangerous snares.

At all events the enlightened views you shall have formed to yourself on all such impostures and impieties will be a power for good in the social circle in which your mental superiority and your moral integrity will make you safe guides for your fellow men.

My authority for the foregoing are Chambers Encyclopaedia, The American Catholic Quarterly Review and a lecture of Rev. C. J. Coppens.

DISCUSSION.

DR. HARRY HAKES:—"The Borderland of Science" is entirely too indefinite a proposition to enable us to forcast the probable line of thought of the essayist, therefore we are obliged to hear the essay before we can formulate remarks upon the same that may be pertinent thereto. By the phrase, however, we may be permitted to presume that the author has in mind either some preliminary limits to the beginning of science or to conditions posterior to scientific conclusions. Science undoubtedly has some starting point or beginning and purpose, as well as some conclusion. At either end of the subject we may assume a border, and no other can be considered, and that leaves us to infer (if we can) which of the two aspects the author proposes to discuss. Either point of view is legitimate and pertinent for same purpose.

Science has to do first, with things noumenally considered, and secondly, and of much greater consequence and significance, things in their relations, in contradistinction to ideas of things. Science then is the study of facts, or rather the demonstration of the facts of things noumenally considered, and secondly in their various and varied relations.

When the scientist has completed his labors, proofs and demonstrations in this behalf, he may say that his task is completed as a scientist, having reached his ultimate border. And this I assume the essayist has in mind, as the borderland in the proposition of his essay. Obviously the three great professions of law, theology and medicine are interested in common, first in its establishment of all matters of fact in such perfection that philosophy may take up the work of harmoniously adjusting the findings of science into a philosophised unity in each of the learned professions, each of which is designed for the general good of the human race. This was the scheme and the dream of the immortal Socrates.

Philosophy commences where science leaves off. Science discoveres the facts, and philosophy interprets them. The borderland of the essayist, I conjecture, to lay between the objects and conclusions of science on the one hand and philosophy on the other. Science seeks and classifies facts; science examines and classifies facts; science seeks to know the universe, philosophy to understand it. Moreover, all science is tributary to philosophy, for philosophy looks out upon the cosmos that science has discovered, and revealed with intent to understand it. It takes the results of science, and interprets them with reference to higher meanings than science by itself could discover. If the facts found by science are true, philosophy is not likely to be deceived when she comes to make her final conclusions and judgment. Until law, theology and medicine can present such an agreed state of facts to the philosopher, as will enable him to commence his philosophical structure upon a sure and substantial basis, the alleged borderland will not have approached such nearness as to become intelligently discernable.

In so far as this or any other medical society is interested or related to the subject in hand, we may in a general way assume that in so far as anatomy, chemistry and the rules governing obstetric and surgical practice is concerned, claim to be sufficiently advanced as to lay some reasonable claim for a philosophy; but as relates to physiology, therapeutics, the philosophy and pathology of the nervous system, and so-called medical practice, the facts that can at present be presented offer little inducement to such a philosophical statement as we may all most abundantly and most devoutly desire.

Though science and philosophy are agreed handmaids for the establishing of ultimate truths, they yet appear as jealous one of the other as two old maids for the caresses of a fine young man, possessed of abundant financial assets. There is no greater or more consequential problem facing the present brilliant age than, "How to make philosophy scientific and science philosophic." The land separating science from philosophy is broad enough but the specific borders await a pioneer to blaze the pathway to guide the footsteps of future travelers.

This so-called borderland between science and philosophy finds its counterpart separating the world of reality from the world of ideas. The great Socrates threw himself into the battle between realism and idealism, obliterating at once the

sophists, the stoics and the epicureans with their ten tropes and the sceptics with their five tropes.

The astounding success of Socrates in this great struggle is the most splendid monument to the power of individual genius that the history of philosophy can show. Alone and unaided he checked and reversed the nominalistic revolution already far advanced, annihilated the sophists as a practical power in philosophy, and determined the course of speculation for a millenium and a half in the direction of realism. No other victory such as this was ever won in the annals of human thought.

What gave success to Socrates in this vast encounter was the fact that he planted himself on an immovable rock, the objective significance and validity of general terms, as opposed to their purely subjective import and value. Even Schwegler in his history of philosophy, says of Socrates, *that there begins with him* the philosophy of objective thought.

Aristotle explicitly declares in the metaphysics XII, IV, that Socrates was engaged in forming systems in regard to the ethical or moral virtues, and was the first to institute an investigation in regard to the universal definition of these. There are two improvements in science which one might justly ascribe to Socrates. First, to his employment of inductive arguments, and second, to his definition of universals. He did not, it is true constitute universals a thing involving a separate subsistance, nor did he regard the definitions as such; the other philosophers, however, invested them with a separate subsistance. But Socrates did attribute universal objective authority to the virtues he defined and vindicated the objectivity of general terms in some sense, without reaching that luminous doctrine of the objectivity of relations, which alone explains it clearly. The point I would here note is, that Socrates rolled back the advancing tide of nominalism let loose by the sophists, accomplished the feat by means of the definition of universals as objectively valid and real, and stamped the thought of fifteen hundred years with the impress of his own realism.

Idealism was again attempted to be made the basis of philosophy of Roscillenus of the tenth century, and revived again in the thirteenth century by William of Occam, although the doctrine was condemned in the person of Roscillenus at the Council of Soissons. Emanuel Kant revived the doctrine of Roscillenus and by his masterly mind worked it into an enlarged philosophy, claiming to have wrought a revolution in

philosophy, when the fact was that the idea of his philosophy was really the work of Roscillenus enlarged and extended. That his philosophy has been generally accepted by most modern schools is quite true, and yet the foundation is simply idealism pure and simple, as plainly appears by the preface to his second edition in the last years of the eighteenth century, where he lays down the dogma, "that objects conform to our cognition, and not cognition to things," and on that idealistic conception, he laid the foundation of his gigantic philosophy. The medical profession, whether wittingly or otherwise, have ostensibly accepted the philosophy of Kant's idealism or ancient nominalism, yet in every valuable discovery in medical science has pursued the exact opposite method of Kant's philosophy, by claiming rightfully and truly that our cognition of things conform to the objects of cognition.

This battle-ground between things and ideas of things, or this alleged borderland, is the prize, and the early possession for which both parties are contending.

In any point of view the medical profession is as illy prepared to wage an offensive war, nor will science, or medical science, yield the ground thus far gained, to the bombastic claims of idealistic philosophers. The ground we have so far won is our permanent possession and all we ask is such rational acknowledgment by philosophy as we render in return.

The great Roscellano Kantian "revolution," by which nominalism was made to supplant scholastic realism, and philosophy to transfer its fundamental standpoint from the world of thought, was a revolution which logically contracts "human knowledge" to the petty dimensions of individual self-consciousness; renders it valueless as to things themselves and valuable only to the *a priori*, constitution of the individuals own mind and in effect reduces it to a grand hallucination. Defining knowledge as the mere contents of consciousness, it relegates to non-entity, as psendo-knowledge, whatever claims to be more than that. Under its sway, philosophy is blind to the race, and beholds the individual alone. What wonder that, in the hands of those who insist on their right to reduce theory to practice, philosophy is so often found pandering to the moral lawlessness of an individualism that sets mere personal opinion above the supreme ethical sanctities of the universe?

In human society, individual autinomy is universal antinomy, for the law that binds only one, binds none. Yet with nominalism for its root, idealism for its flower, and solipsism

for its fruit how can modern philosophy, teaching in both its great schools that the individual mind knows nothing except the states of its own consciousness, discover any law that shall have recognized authority over all consciousness? For such a discovery it is hopelessly incompetent. Without any conscious protest, however, though with an instinctive hostility to "metaphysics" and to the philosophy which it confounds with "metaphysics," physical science has immovably planted itself on a new definition of knowledge, and fortified it impregnably against all comers; and on the principal of cognition, which it establishes, universal science, carrying up the physical and the mental into the higher unity of the cosmical, is even now building a temple of truth destined to be coeval with the human race.

Modern philosophy defines knowledge as the recognition by the ego of its own conscious states. Modern science defines knowledge as twofold, individual knowledge, or the minds' cognition of its own conscious states, plus its cognition of the cosmos, of which it is a part, and universal knowledge or the sum of all human cognitions of the cosmos, which have been substantiated by verification and certified by the unanimous consensus of the competent.

In the year of grace one thousand eight hundred and three, the greatest shame that could fall upon the medical profession and the greatest calamity that could come upon the world at large would be for the profession of medicine to cast aside the scientific and hard won victories of our profession and bow down before the Devil's altars, erected for the worship of mysteries, miracles, the abominations of witchcraft and the palpable frauds of table turnings, spirit rappings and the insane delusions of alleged Christian Scientists and turn our thoughts to acquire an *honest* (*?*) living by practicing the hypnotic art on the silly brains of the few fools who may be susceptible to some sort of surrender of will power by floating our hands over the heads of somnambulistic patients and snapping our fingers before their faces, for the cure of disease, whether real or imaginary. That is the extreme limit of all I care to say as regards such a proposition. Such stuff has no place among gentlemen of your merit and standing in the practice of the healing art.

A CASE OF CERERBRO-SPINAL MENINGITIS.

BY DR. W. L. HARTMAN, PITTSTON, PA.

READ SEPTEMBER 16, 1903.

I was called March 29, to H. S., twelve years of age. Her pulse was 108, temperature 99 4-5; tongue furred, pupils normal. Was restless and semi-conscious. When spoken to complained of headache and pain in limbs. Ordered gr. 1 of calomel every hour for six doses. Sodii Bromide and Potass. Bromide, grains 5, every two hours; a foot bath, mustard to spine and a cathartic. March 30, 10 A. M., temperature 99 4-5, more rational; Bromides. March 31, 9 A. M., pulse and temperature same, tongue dry and fissured, marked head retraction, petechia over both patellae, one hip and one hand; two dark stools last evening. Ordered a hot bath, 104 degrees, every six hours and gave one-eighth grain Hg. Bichlor hypodermically. Delirium is constant. Four P. M., temperature 100 degrees, left wrist and ankle swollen, slept two hours after each bath. Gave second hypodermic of Hg. Bichlor, grain one-eighth. April 1st, 10 A. M., temperature 101 degrees, delirium constant, retraction greater. Hypodermic of Bichlor. Merc. Five P. M., temperature 101 degrees in axilla. Has slept a half hour after each bath, Hypodermic Bichlor. April 2, 9:30 A. M., temperature 100 degrees in mouth, less jactitation and more sleep through night, has had one large brown stool, has taken two ounces of beef broth in twelve hours. Bears handling better and is better able to turn the head, and is more rational. Pupils normal, Bromides, bath and hypodermic continued. Four P. M. temperature 100 degrees; one brown stool, slept six hours continuously, asked for food, hypodermic. April 3, 10 A. M., temperature 101, one yellow stool; hypodermic omitted. Four P. M. temperature 102, one yellow stool, hypodermic given. April 4, 10 A. M., temperature 102, two yellow stools; quite rational, asks questions regarding occurrences of past week; omit baths and hypodermics; continue bromides and phenace-

tine five grains every two hours for three doses. April 5, 10 A. M., temperature 100; one stool; takes nourishment and is bright, sleeps well, stiffness of neck continues. Left wrist and ankle swollen and painful. Wrap them in flannels, wet with hot salycilate of soda solution. April 6, 10 A. M., pulse 110, temperature 105; two stools; resume baths, phenacetine salicylate of soda five grains every two hours. April 7, 4 P. M., temperature 105, one stool. This temperature lasted thirty-six hours. Baths were maintained to April 12, then omitted by the nurse on account of persistent flexion of lower limbs and tremulousness of patient. Aconitine was used to reduce the fever which was from 102 degrees to 103 degrees for two weeks, then 100 degrees to 101 degrees the next two weeks; following omission of the baths, retraction of head was greater and cephalalgia and insomnia were persistent, the slightest movement of the head caused a scream. These symptoms were partly controlled by bromides and sulphonal. The left eye was suffused and the pupil dilated. The left wrist and ankle remained swollen. Only one-half ounce of liquid food was retained at a time, any more was promptly vomited; stools and urine were involuntary; there was a fixed stare and she seldom answered a question. This condition lasted until the tenth week. Potassium Iodide was tried and disagreed each time. Burnham's Iodine was then given in five drop doses four times a day. In a week there was an amelioration of all the symptoms. The medicine was continued six weeks until convalescence was fully established. The two prominent points in this case were the value of the hot baths and the persistent use of the Iodine solution.

CASE REPORTED

BY DR. CLAUDE R. GROSSER, WILKES-BARRE, PA.

READ SEPTEMBER 16, 1903.

Mrs. P., age 38. Family history good. Personal history: Had given birth to four children, healthy and at term, the last one was born May 1st, 1903. One year after birth of last child, her menses returned and were regular until March 30th, 1903. Her menses did not appear during the next month (April) and re-appeared May 2d and 3d, together with profuse nose bleed which lasted nearly a whole day. May 12th to May 15th (same month) the menses occurred again and in profusion, and for a month she complained of periodical pains in the hypogastrium. I was called on the evening of May 19th and found her suffering with a severe cramp-like pain of the abdomen, which extended to the back and throughout the pelvis. She also had retention of urine and difficult defecation. Only slight symptoms of shock were present.

Bi-manual examination revealed an indefinite fullness or a yielding mass in the pelvis behind the uterus. Immediate operation was advised by me, but her people would not consent until morning. The following morning (May 20th) I made another vaginal examination which showed that the mass had increased in size, but still yielding and not firm.

She was taken to Mercy Hospital and prepared for operation at once. Dr. A. F. Dougherty operated immediately and we found to our great surprise not a single, but double extra uterine pregnancy with rupture of both tubes (outer third) and the hemorrhage was intra peritoneal. Both tubes and overies were quickly ligated and removed, the patient meanwhile receiving stimulants, including intravenous injection of normal salt solution.

The wound healed primarily and the patient was discharged from the hospital cured June 16, 1903.

SCARLET FEVER.

BY DR. J. A. BURLINGTON, DURYEA, PA.

READ OCTOBER 7, 1903.

Scarlatina, or what is commonly known as scarlet fever, is an acute infectious, contagious and eruptive disease.

This disease is caused, no doubt, by the entrance into the blood of a micro-organism, the streptococcus scarlatinæ, the bacillus scarlatinæ and other germs, perhaps yet to be discovered and isolated. The place of entrance into the human body is probably the throat, and there these micro-organisms are hatched after a certain length of time, varying under certain conditions from two to six days and there at the same time is produced the poison, whatever it may be, that circulates through the blood, thereby causing certain changes from which follows a line of symptoms, the most prominent of which are sore-throat, rapid pulse, fever and a rash, followed in a few days by a peeling off of the epidermis and the epithelium of the kidneys and some other organs. Sore throat, fever, rapid pulse and a punctuate rash are highly characteristic of scarlet fever and these symptoms are never absent, although they are much more pronounced in some cases than in others. This punctuate rash may vary from a deep lobster scarlet to a mere faintest blush. It makes its appearance usually upon the second or third day of the disease on localized parts of the body, namely, the neck, chest, flexures of arms and legs, finally spreading over the whole body, even effecting the mucus membrane of the nose and mouth. This rash usually begins to fade upon the fifth or sixth day, although we have seen it retarded until ten or twelve days, or even later. As said previously the rash at times is so faint that it entirely escapes the attention of the parents or nurse and sometimes, no doubt, of the medical attendant.

Perhaps we all have been called to see a child who has been sick for a few days, its parents telling us that the child has never been very sick, how they have greased it, physicked it, and have given it all the usual household remedies, without any

good results. We examine the child carefully, and find a slight punctuate rash in the arm pits, a slight punctuate rash in the groins; we find the strawberry tongue of scarlatina and a slight redness of the tonsils and fauces. We tell them the child has scarlet fever and we know that we are right in our diagnosis; why, because a punctuate rash in the arm pits, a punctuate rash in the groins, the strawberry tongue of scarlet fever and the angina are pathognomonic of scarlet fever. On the other hand, other cases are so pronounced that he who runs, though blind, may read.

As already stated, the rash usually lasts about one week, beginning to fade on the fifth or sixth day, fading first upon parts first effected. The temperature is variable, ranging from a state of hyperpyrexia to only a slight increase of heat, say 100.5 degrees to 101 degrees Fahrenheit. In some cases the temperature may be subnormal, the febrile movements ordinarily fluctuate but little from day to day until the fourth or fifth day, when, if the case be favorable and no complications occur, they begin to decline. The temperature is as high at the beginning of the attack as at any other time, although the febrile movements fluctuate but little. We sometimes have cases of the remittent and intermittent type. The pulse is usually more rapid than the rise in temperature.

Desquamation of the superficial layers of the cuticle begins on or about the eighth or ninth day of the disease, sometimes continues for four or five weeks and occasionally even a longer period and is a marked characteristic of scarlet fever. This desquamation occurs in the form of bran-like scales or in larger flakes or casts of certain portions of the body. At the same time we have also a peeling of the superficial layers of the gastro-intestinal tract and also of the kidneys. In the past many theories have ben advanced as the cause of this desquamation, but, no doubt, the simplest explanation is, that the rash, the skin and mucus membrane being in a state of hyperemia or congestion, causes certain trophic changes by reason of the amount of poison contained in the blood or by simple pressure by the congested blood vessels upon the sensitive fine

nerve fibrils causing the superficial layers of the epidermis to die and to be cast off as waste products. Although many bacteriological examinations have been made from these casts or shreds of the epidermis no specific germs, I believe, have ever been found. I have seen in my own practice children convalescing from scarlet fever and in the stage of desquamation mixing with healthy children with no bad results; and from these facts I am led to believe that the stage of desquamation, or at least, the latter part of desquamation is not infectious; or at least not so infectious as was formerly supposed.

The inflamed condition of the throat shows where the micro-organisms lodge and breed and from there are taken into the blood, causing scarlet fever; the adjacent glands, the submaxillary and sometimes the cervical become involved, being enlarged and tender to the touch. Undoubtedly this is caused by their effort to prevent the poison from entering into the general circulation through the lymphatic system. The bacteriology of scarlatina has been studied by Klein, Frankel, Freidenburg and many others. No specific germ has ever been found.

We have in this disease, the streptococcus, the bacillus scarlatinæ and often the bacillus diphtheriæ, besides others. No doubt the pseudo-membrane is caused by these germs and also the otitis, the adenitis, the nephritis, the pneumonia and the joint disease that we frequently get in this disease are caused by these germs. These germs are poisonous and when animals become infected with them, they produce lesions similar to those found in man. This micro-organism is found in the mucus of the throat in its early stages and occasionally as late as the eighth or ninth week. It has been found in the nasal discharges and also in the discharges from the ear, but it has never been found in the desquamated cuticle of scarlet fever. As said, the bacillus scarlatinæ has been found and the bacillus of diphtheria is sometimes seen beside the germs of other observers. Although it has never been proven, no doubt the disease is caused by some germ, and the passage of that germ from person to person causes the disease to spread and to take root in suitable soil. Children over one year of age

are especially susceptible to this disease. Infants between three and twelve months are not very susceptible. Infants under three months are almost immune. The most susceptible period in life appears to be between one and five years of age. Every year after five, appears to afford some immunity from the disease and we can see from this how important it is that parents should take special care, to prevent, as much as possible, their children from coming in contact with it during this period of life.

The disease is most infectious during its earlier stages, during its period of febrile movements. It is infectious from the very moment that sore throat and vomiting appear and may continue as long as sore throat, rash and fever continue. Its virulence diminishing after this period and perhaps entirely disappearing during the latter stages of desquamation, if no complications occur. The most frequent complications in my experience are nephritis, otitis, pneumonia, adenitis and rheumatism, and in the order named..

The infection of scarlet fever is given off in the breath from the throat, from the skin and from mucus membranes. Scarlet fever poison passes from person to person very readily. The infection may be carried either directly or indirectly. The infection may cling for long periods of time, under suitable conditions, to wall paper, bedding, clothes and other articles of furniture. In this respect it is more tenacious than any other of the eruptive fevers except, perhaps, small-pox.

The mortality of scarlet fever is variable. In some years the mortality is greater than in others; greater in some sections of country than in others. Thus the mortality in the Northern States is higher than in some of the Southern States. Forty years ago the mortality was from eight to ten per cent. of all cases affected, and to-day, under our present mode of treatment and better sanitary conditions, it is less than eight-tenths of one per cent., although the disease is just as prevalent to-day as it was in 1860, and it also seems to be a fact that the virulence of scarlet fever is much less than formerly, and it seems to be growing less each year. This is, no doubt, due in greater part to more modern methods of treatment, better sani-

tary conditions, and in large cities the treatment of more patients in hospitals, where they can be better isolated from their fellow beings.

No doubt scarlet fever in the great majority of cases is carried direct from person to person. In some cases the symptoms of the disease being so slight as to attract little or no attention from the child's parents or nurse or friends, and perhaps it has received no medical attention. It has scarcely any sore throat, no visible rash and the desquamation is scarcely perceptible or the desquamation might be the first thing to attract attention, that any thing has been wrong. No precautions have been taken; the child may have attended school throughout the whole course of the disease, spreading it broadcast. Another source of infection is overcrowding. Overcrowding of itself will not produce scarlet fever, but overcrowding generally goes hand in hand with unsanitary conditions and in this way makes the disease more general and fatal. Infection is also brought about sometimes through pet animals, as dogs and cats, their chance of infection is purely mechanical, the germ being simply conveyed in the hair, or wool and the animal need not of itself suffer from the disease. I remember reading some time since of an epidemic of scarlet fever reported to be caused by drinking milk of infected cows. According to the most proficient observer, this perhaps is erroneous, as it has never been proven that such animals were susceptible to the disease, and the weight of evidence is against it. On the authority of most of our able observers it is safe to say that scarlet fever is never conveyed directly by such animals. On the other hand it is plain to be seen how it may be conveyed by milk. It is a well known fact that the germs of scarlatina grow well in milk. A few of these germs taken into the milk would rapidly multiply and a sending of this milk from house to house would cause scarlet fever.

Heat, fresh air and sunlight destroy the germs of scarlet fever, and for this reason it is doubtful if infection through the air ever occurs. If it does occur, it must be through a small intervening space. Furniture, bedding, clothes and wall paper are methods of conveying the disease indirectly.

The germs of scarlet fever cling tenaciously to clothes and bedding. Children attending school have brought the disease home to other members of the family in their clothing. Physicians attending cases of scarlet fever have carried the germs home to members of their own family in their clothing and whiskers.

Toys, papers, slates and books have been known to transmit the disease. To illustrate: A child, sick with scarlet fever, is given a doll to play with. In due course of time, the doll is laid aside without being properly disinfected; after awhile, it is given to another child to play with who thereby becomes infected. Mosquitos, flies, etc., have been known to have carried yellow fever, typhoid fever and other diseases, and there is no reason why scarlet fever cannot be conveyed by the same means. Sometimes it is so mild that it is difficult to diagnose it. There is generally, however, some vomiting, a little fever and sore throat, but none of the symptoms are very pronounced. The vomiting lasts only a short time, the fever arises perhaps to 102 degrees or less. The throat presents symptoms of only a slight pharyngitis. The fever generally becomes normal about the fourth day. The rash is faint and may not appear upon the face and may entirely disappear by the fourth or fifth day. It is by these mild cases that the disease is frequently sown broadcast. It is in these mild cases that we frequently get complications, owing to lack of care. A mild case in one child might produce a severe case in another child. In the ordinary type the disease is more pronounced. The invasion is usually sudden. It is proceded by a short period of malaise. In older children it may commence with a chill. In younger children with a convulsion.

The vomiting and sore throat is more pronounced. The pulse is more rapid. The fever is higher, sometimes reaching as high as 103 degrees or 104 degrees. A high fever on the first day indicates a severe attack. A low fever, say 102 degrees, a mild attack. In these cases the fever begins to decline upon the fifth or sixth day if there are no complications, but without any known cause it sometimes lasts for fourteen or fifteen days. The tonsils are covered with follicular spots or

they may be covered with an exudate resembling a pseudo membrane. There is a discharge from the nose of a clear or tenacious mucus or muco-pus. In these cases the glands very frequently become enlarged. The tongue is coated with a white fur, with red papillae.

As the disease advances the tongue exfoliates, leaving the surface clean and reddened and the papillae enlarged. We now have the strawberry tongue of scarlet fever. The bowels may be either loose or costive; in my experience, generally free. The patients in this class of cases generally recover under proper care and treatment.

In the severe type the symptoms are all still more aggravated. The chief distinguishing feature of this type is the septic symptoms, due to the streptococcus infection. On the second or third day there appears a membraneous exudation upon the pharynx and naso-pharynx. A purulent discharge appears from the nose. The lymphatic glands at the angle of the jaws commence to swell and enlarge. The Eustachian tubes become involved and we have purulent otitis media. Albumen and casts appear in the urine. The child refuses nourishment and medicine. There is a low muttering delirium and perhaps stupor. In this class of cases death is quite common, either from exhaustion or suddenly from heart failure. Others, after a long, tedious sickness, passing through many complications, recover.

There is another class of cases, the malignant type, which of late years is exceedingly rare. The poison in this class of cases is so intense that the patient may die within twenty-four hours or within two or three days and before the eruption has time to make its appearance. The marked characteristic feature is the toxaemic symptoms which are very intense. All of those affected with this form succumb to the disease.

In the treatment of these cases there is no drug or class of drugs that will act as a specific. No antitoxine has ever been discovered that will act as a preventative or prophylactic. The preventative treatment then consists of isolation and thorough disinfection, although as most of the serious symp-

toms of this disease are caused by a streptococcus, a rational plan of treatment would be the early use of some anti-streptococcic serum. Such has been used and some good results have been reported from its use. Still not much is known of this line of treatment. The patient should be put to bed in a large, well ventilated room. The top floor is preferable, upon the sunny side of the house, and the place made as pleasant as possible. The walls should be painted or papered with a washable material. The floor of hard wood. The bedstead should be of enameled iron, with no extra furniture, only what is necessary for the use and comfort of the patient. To prevent the spread of the disease, nurses and attendants should not be allowed to have any intercourse with the healthy until all danger from infection has passed.

The funeral of those dying of scarlet fever should not be public. All discharges should be disinfected with a strong bi-chloride of mercury solution. Bedding and clothes should be disinfected with boiling water or steam. The bedding and clothing of the sick should be changed often enough to insure cleanliness. Scarlet fever cannot be aborted, but if left to nature has a natural tendency to get well. It has certain stages to pass through and it is the duty of the physician to watch those stages and guard against complications.

The sick should be kept in bed as long as there is fever, sore throat and during desquamation, if not too long prolonged, for at least three weeks. The diet should be of a liquid nature for at least two weeks. Milk is the best article of diet; good, fresh, pure cow's milk, either plain or peptonized. Later, fresh soft-boiled eggs and broths may be added. The stomach should never be over-loaded. Vomiting at the beginning is generally of short duration and needs little or no medical attention or treatment. In the early stages the bowels should be acted upon by small and repeated doses of calomel. Later the enema is preferred to drugs.

The soreness of the throat during the first few days is best relieved by cold water, or cold carbonic acid water or cracked ice. Later, irrigation of the throat with a boracic acid solu-

tion or some antiseptic wash, as the case would indicate. I have used peroxide of hydrogen, sometimes clear, more frequently diluted. Nasal syringing is contra-indicated unless there is a purulent discharge from the nostrils.

Adenitis is best treated in the early stages by ice; in advanced stages poultices and cloths wrung out of hot water seem to give most relief if properly applied. Stimulants are required in the severe and malignant type. Whiskey, strychnine, tincture of digitalis and occasionally nitroglycerine, are drugs of the highest importance, but should be given with care and discretion.

Fever is best controlled by hydro-therapeutics. Sponging the surface with tepid, cold or even ice-water, if there is hyperprexia, is the only proper way to reduce it. In the stage of desquamation carbolized vaseline, preceded by a sponging, gives relief.

Complications should be treated as they arise.

MULTIPLE SEBACEOUS CYSTS OF THE SCROTUM.

REPORT OF A CASE.

BY DR. B. J. WETHERBY, WILKES-BARRE, PA.

READ OCTOBER 7, 1903.

The patient was a miner, aged about forty, married, and the father of several chindren. He denies ever having had any venereal disease.

Twenty years ago he noticed a small lump in the skin of his scrotum. This slowly grew larger, and after a time others appeared, until the scrotum was in the condition shown by the photograph, which I had taken early this year. There had never been any pain or tenderness connected with the growths. In color they resembled coral, with white spots here and there, which is nicely shown in the photograph.

The patient complained of irritation of the neck of the bladder, together with dull pain in the groins and over the sacrum. Otherwise he enjoyed splendid health.

Thinking his pains might be due to the great weight of the scrotum, I removed the growths about three months ago. I succeeded on the right side, in excising the wide strip of skin containing the cysts without opening the tunica vaginalis; but on the left side the cysts extended down into the tunic in the upper part, so I cut out a strip of it also, laying bare the testicle on that side. It healed by first intention throughout, and in two weeks he walked into my office, the stitches having been removed a few days before by his family physician.

The pains in the sacrum and groins have already disappeared, but the irritation at the neck of the bladder is little, if any, better.

The case is a little unusual on account of the large number of the cysts together with their location. I showed the photograph to Professor Horwitz, who told me he had seen but three cases in his entire practice, and only one in which there were so many and such large tumors.

SYPHILITIC BRAIN AFFECTIONS.

BY DR. BOYD DODSON, WILKES-BARRE, PA.

READ OCTOBER 21, 1903.

Mr. President and fellow members:

I have not found any definition for syphilis which is entirely satisfactory, for the reason that its nature or causation is not positively known, although it is reasonably certain a micro-organism.

The history of syphilitic brain affections is the history of syphilis; its origin is the primary inoculation; it is but a symptom of the advanced stage of syphilitic infection.

Syphilis pursuing its regular course attacks the skin and

mucous membranes, the lymphatics, muscles, bones, cartilages, fibrous membranes, lungs, liver, kidneys, heart, brain and nervous system.

I have not found any statistics giving the relative frequency with which the brain and its coverings are affected; but left without treatment, or with improper treatment, I believe a large percentage will die as a result of cerebral involvment.

The time in the course of this disease when the brain becomes affected differs from a few months to several years. Brain symptoms and convulsions may occur within three months after the primary sore; while I find one case recorded where such symptoms occurred only after a lapse of forty years. It may occur in either the heredetary or the acquired form of syphilis, but more commonly the latter. H. C. Wood claims that in the congenital cases brain tumors usually form early, but may be as late as the twenty-first year; while in the acquired form the nerve lesions usually belong to the late manifestations.

Syphilitic affections of the brain are: gummatous tumors, gummatous meningitis, gummatous arteritis and localized sclerosis.

Syphilitic gumma forming tumors ranging in size from a pea, or smaller, to that of an egg, sometimes single, but usually mutiple, are found attached to either of the membranes or formed in the brain substance.

Osler describes them as uniform and translucent in appearance when small; but when large the centre sometimes undergoes a fibro-caseous change, while at the periphery there is a firm, translucent, grayish tissue. Occasionally they undergo cystic degeneration.

A gummatous meningitis is a frequent occurrance in these cases, with infiltration and thickening of the membranes which often become adherent to the brain surface.

Syphilitic disease of the cerebral blood vessels is not uncommon; a specific new formation within or around the arteries encroaches upon the lumen of the vessel, which becomes smaller and smaller until circulation is nearly or completely

cut off. This affection of the blood vessels is often a forerunner of local softening and hemiplegia.

Inflammation may take place in the brain substance resulting in softening. Not infrequently disease of the blood vessels is found accompanying a diffuse gummatous meningitis or a circumscribed gumma of the brain or its meninges.

DaCosta says: "The syphilitic exudation may be localized in the course of one of the several nerves and we have, for instance, paralysis of one of the sixth pair or of the fifth with or without paralysis of some of the other cerebral nerves."

He says further: "Syphilis attacking the nervous system is chiefly characterized by a want of uniformity in the lesions it produces, so we observe very dissimilar phenomena preceeding or attending the palsies."

The symptoms of cerebral syphilis are the symptoms of brain tumor, epilepsy, dementia-paralytica, or apoplexy.

The prominent symptoms of brain tumor are headache, sometimes with marked exacerbations, vomiting, vertigo, optic neuritis, mental disturbance, and convulsions.

Focal symptoms, or symptoms dependent upon the exact site of cerebral tumor, is, of course, beyond the limits of this paper.

Epilepsy may be met with in syphilis of the brain; the epileptic-form attacks may be partial, limited to one extremity, without loss of consciousness, or general, with unconsciousness.

We may meet with symptoms not unlike those of dementia paralytica, which includes failure of memory, change in disposition, tremors, delusions or grandeur, et cetra.

Apoplexy is a frequent occurrance in cases where the blood vessels are diseased, there may be a mere dazed feeling with no actual loss of consciousness, but followed by hemiplegia; or there may be intracranial hemorrhage causing profound unconsciousness, coma, and death.

As regards diagnosis: The history of specific infection is of first importance, but we are oftimes unable to get any history; in which case careful examination should be made for evidence of the primary sore, cicatrices in the groin, scars re-

sulting from lesions of the skin or throat, possible bone affections, and last but not least the results obtained from the administration of antisyphilitic remedies.

There are cases of syphilitic infection which receive proper treatment for a few weeks or months and then become wiser than their medical attendant and discontinue it.

The symptoms have disappeared, they feel perfectly well, the doctor is believed to have mistaken their ailment, or wishes to keep them under observation for his own profit.

For months or even years there may be no further evidence of syphilis; then a new train of symptoms and the patient will likely consult another physician, denying all knowledge of having ever had syphilis.

There are other cases, not a few in number, who stand in with a wise druggist who is simply expert in veneral diseases. He puts up large bottles of medicine for one or two dollars, with pills and throat washes on the side; when their money is gone and they are unable to work they may consult a physician, sometimes when it is too late to benefit them.

It seems to be the universal opinion among medical writers that for the late lesion of syphilis no remedy is equal or superior to Iodine preparations, either alone or in conjunction with mercury in some form; and indeed, it is very gratifying to note from day to day the wonderful improvement during its administration.

Iodide of potassium is the remedy usually prescribed, or, where this disagrees with the stomach, sodium iodide may be found less irritating. Among other iodine preparations may be memtioned tincture of iodine, iodol and iodoform.

Potassium iodide is given in doses of from ten to sixty or more grains t. d. preferably in solution, and after meals. The saturated solution is a convenient form, or combined with syrup sarsaparilla compound or syrup trifolium compound or the bitter tonics.

The efficacy of the iodine preparations appears to be enhanced by combination with mercury in some cases; or some may require the additional tonic effect of quinine, iron or arsenic.

Bartholow mentions that cases not readily yielding to specific treatment may do so on giving pilocarpine to promote absorption.

From an educational standpoint our failures are quite as helpful as our success; I will not, therefore, weary you with a report of such cases wherein I have distinguished myself, but rather refer briefly to three cases in which, for various reasons, I did not cover myself with glory.

About fourteen years ago I was called to a young man, aged twenty-two, with a history of syphilis of three years' duration, during which time he had been treated by a local druggist; he had one epileptic seizure just before I was called, another during my first visit, several within thirty-six hours, and died within two or three days. A former member of this society saw the case with me and pronounced it syphilitic brain tumor.

Soon after this I was called to a sister-in-law of case number one. She was suffering from headache of several weeks' duration, at times becoming most violent in its intensity; this affection resisted all the ordinary means of relief until I gave specific treatment with most gratifying results. The headache disappeared, she improved in general health and wonderfully in appearance. About a year later she moved to another part of this State, and four years later she died—her husband told me—"of some disease that went to her brain." I confidently believe it was cerebral syphilis, although I was unable to obtain such a history.

The third and last report I will offer was a dentist who was accidentally inoculated with syphilitic virus by picking his finger with a dental instrument while working for a patient. I am not certain that he received any treatment until violent secondary symptoms developed, especially an eye trouble; he was then treated by a former member of this society for five or six months before he was able to go back to his office. Ten years later he spoke to me concerning an enlarged and painful finger joint, and told me of his previous infection. Frequently

in our walks out over the mountain he would complain of violent pain in the upper arm when climbing a steep grade.

These symptoms disappeared on giving him potas, iodide; but he never carried out specific treatment for any length of time, and two or three years later I was at his bedside when he died of unmistakable symptoms of cerebral meningitis.

REPORT OF CASES

BY DR. ERNEST U. BUCKMAN, WILKES-BARRE, PA.

READ OCTOBER 21, 1903.

The two cases which I report this evening are of mastoid disease, upon which I operated at the hospital; and they both present some unusual features that are interesting.

Case 1.—D. P., an Italian, aet., 42, was squeezed in the mines between a pillar and a car, about two months ago, and was in Mercy Hospital for several weeks. His right collar bone and some ribs were broken, and the right side of his head was injured. He came to me June 6, with right ear discharging, and complaining of pain in the head on the right side. I treated him several times in the office, but the pain grew worse, and there was slight swelling over the mastoid bone. I admitted him to the City Hospital June 30, and did a mastoid operation on July 1. The incision, about two and one-half inches in length, revealed apparently healthy bone. I made an opening with chisel and mallet through the outer plate, which was fully one-quarter inch thick and very hard. I found one large cell, full of pus and granular material. I opened this freely into the middle ear and attic. The inner plate was soft, and while curetting gently at the back part I opened the lateral sinus. I immediately packed tight with iodoform gauze and closed the wound with the usual dressing. I generally leave this first dressing in place six or seven days,

but on account of great distress, and swelling about the bandage, I removed this one in about three days. I found the entire surface that had been covered with iodoform gauze, a mass of blisters. I did not at first recognize this as being due to the iodoform, and reapplied this dressing, which I always use in these cases. In two days I did the second dressing and found the blistered condition still worse. I then discontinued the use of iodoform with immediate improvement, and a gradual subsidence of the swelling and blistering. I did not remove the packing from the bony cavity until the second dressing, and then the opening into the sinus had completely closed. There was a good deal of pus in the wound and he did not keep the bandage on well. It was hot and there were several flies in the room. About the third or fourth dressing, which I had done every other day according to my usual custom, I found a number of maggots in the wound. I cleansed thoroughly with strong bi-chloride solution and thereafter dressed the wound daily. There were no more maggots, and the pus quickly disappeared. In four weeks the wound was entirely healed and I left off the bandage.

The interesting points in this case were the opening of the lateral sinus, the iodoform poisoning, the maggots, and the clear demonstration of the utter futility of Wildes incision, and the quick healing in spite of the adverse conditions.

The Wildes incision would have been useless in this case because of the unusually thick outer plate, and because the necrosis had already extended through the inner plate, into the cranial cavity.

Case 2.—Mrs. R. W., aet., 73, from Sunbury, was referred to me by Dr. Guthrie, July 20, 1903, for admission to the hospital and operation. She had been treated at home, for several months, for pain in the left side of the head extending from the vertex to the occiput. There was very little swelling and slight discharge from the ear. The real condition did not seem to have been recognizd until Dr. Guthrie made a diagosis of mastoid abscess, and advised operation.

On July 22, assisted by Dr. Guthrie, I opened the mastoid, as I thought, very freely. The bone was hard and fully three-eighths of an inch thick in the outer plate. After much chiseling, I found a small pocket of pus at the tip of the mastoid; I made a communication from this to the middle ear, and closed, as usual, with iodoform gauze in the wound and around the ear. On the first dressing I found much swelling and blistering as in the former case, which subsided slowly on discontinuing the iodoform gauze. There was considerable discharge of pus from the ear and the wound, and much to my disappointment, no relief from the pain.

The pain continued about as it had been, sometimes worse and sometimes better. The temperature dropped to normal and remained about normal for some weeks; but the pain grew worse and a swelling developed, extending from the ear to the median line at the occiput.

I finally decided upon a second operation, which I did September 12, assisted by Dr. Taylor. I made a two and a half inch incision back of and in line with the ear, and from the middle of this, another toward the occiput, about two and a half inches. The flow of pus was profuse, and I found it had burrowed back to the occiput, where there was a large collection. I chiseled through nearly an inch of dense bone, back to the lateral sinus. I removed the entire tip of the mastoid, and chiseled into the middle ear and attic, making a cavity about an inch and a half in depth. Much of the pus seemed to come from the cranial cavity, at the base, under the lateral sinus. On account of the extent of the chiseling already done, the time consumed (about an hour and a half) and the age of the patient, I did not open into this fully, but trusted to its draining out.

This case was dressed by Dr. Taylor during my three weeks absence. There was a large amount of pus discharged, but the cavity at the occiput closed up immediately.

This second operation relieved the pain entirely, and the condition of the patient has been good ever since. There has been no pus for about two weeks, and the large open wound

is closing rapidly. I need scarcely remark that there is facial paralysis on the left side.

The interesting points of this case are—the age of the patient, the density of the bone, and the extent to which the pus had burrowed, and the iodoform poisoning.

A CASE OF ACCIDENTAL LACERATION OF THE CERVIX UTERI.

BY DR. W. F. DAVISON, DORRANCETON, PA.

READ NOVEMBER 4, 1903.

I report this case to show how essential it is that we use all the precautions possible with our antiseptics; also, in dilating an os in an old lacerated cervix and in removing all of the placenta.

I was called in haste to see Mrs. M., whom I found had been flowing for the last two months. Upon digital examination found the breach of a six-months' fœtus presenting, and before I could get her in bed, the child was born, all but the head, which was delivered with very little trouble.

I used Crede's method of extracting the placenta without any result. On examination I found the os had closed so tightly that it was impossible for me to place one finger within reach of the placenta. Waited a half hour, and still it was closed, so I packed the vagina tightly with sterilized cotton. Returned in six hours, found no change except the patient was very much weaker. I made several attempts to dilate the os without any results. Called a consultation. After making a careful examination the consultant thought if I would give a little ether he would be able to dilate and remove the placenta, which he did and after he had cleared it away thoroughly with his fingers, found a portion of the omentum protruding through the vagina. On a careful examination we found that he had opened up an old lateral laceration of the cervix, which admitted about eight inches of the omentum down into the vagina. We returned the omentum at once, packed the opening with

iodoform gauze, also the vagina; placed the patient on her back, applied ice to her side and she remained in that position for forty-eight hours, when we found that she was getting quite restless. Temperature 101 degrees. Removed the ice and allowed her to change her position. Her temperature came down to normal. Patient felt quite comfortable. On the fifth day, removed the gauze, which had very little odor. In two weeks the patient was sitting up, in three weeks she went down stairs, and in four weeks was doing her own work and tells me she never felt better.

A CASE OF PSEUDENCEPHALUS.

BY DR. DELBERT BARNEY, WILKES-BARRE, PA.

READ NOVEMBER 4, 1903.

In July last, Mrs. P. J. engaged me to attend her in her second confinement, which she said would occur late in August or early in September. On inquiry I learned she had been perfectly well throughout her period up to that time, and that she was taking exceedingly good care of herself. August and September came and passed, and I heard nothing of my patient. I concluded naturally that I must have been away from home when she needed me and thus lost the call. Early in October, however, I heard incidentally from a neighbor that the confinement had not taken place, and that the friends of my patient were saying that she had gone two months over time. That prepared me for the call I received from the family on October 21st. I found my patient a little anxious, but perfectly well. She had absolutely nothing to complain of except that she was tired of waiting. I made a rough inspection of the abdomen through the clothing and found everything apparently normal, and the child in correct position and very active. I assured the family that everything was all right, that they had made a mistake in calculating the time, and that there was nothing to be done until nature was ready.

The next day, October 22, I was sent for again and informed that the pains were going on nicely. On arrival I found an

easy first stage of labor progressing. The os was well dilated and the membranes protruding to such an extent that a diagnosis of the presentation was impossible. After about an hour I ruptured the membrane and got a perfect flood of liquor amnii; then I found I had a face presentation, and fearing trouble, I determined to give chloroform and turn at once. The operation was easy for the child was not large and the pelvis was roomy.

As soon as the child was delivered I saw that podalic version was totally unnecessary, for that head could have been delivered naturally in any position; the fœtus was a brainless monster—an anencephalus, or at least a pseudencephalus which is the more common form. The child was perfectly formed as to its body, limbs and face, but the vault of the cranium was absent. A circle drawn around the head just above the eyebrows and ears would have marked the limit of completion. In place of a brain there was a small vascular tumor which makes the difference between pseudencephalus and anencephalus, in which it is absent. The child never breathed.

Complicating this case, I found a very adherent placenta, requiring the insertion of the whole hand to detatch and remove it. The mother is doing very well; thus far there has been no adverse symptoms.

An interesting point in connection with this case is the fact that on July 25, 1901, I delivered this same patient of her first child, which had spina bifida; for a space of two inches in the lumbar region the cord had only a membranous covering. The child lived three days.

Here was a deformity which might have been regarded as a result of maternal impression. In early pregnancy the mother was shocked by the sight of the crushed body of a trolley victim, which was brought into her house and which proved to be her own brother. In the second case no such cause could be assigned for there had been no shock, no accident, no disagreeable sight—nothing but pure good health. With plenty of exercise but no hard work, the period of gestation was perfectly tranquil from beginning to end.

A CASE OF ABDOMINAL INJURY.

BY DR C. W. PREVOST, PITTSTON, PA.

READ NOVEMBER 4, 1903.

M. S., American, blacksmith, was admitted to hospital December 10th, 1901. Was heating a piston rod when suddenly it exploded and one of the pieces struck the patient in the right side, tearing a hole in abdominal wall in the region of McBurney's point, and fracturing the crest of the ilium about two inches below the anterior superior spine. On examination I found the viscera protruding through the wound in abdomen and recognized the small gut, appendix and head of caecum and a portion of the ascending colon, all more or less covered by coal dirt and cinders.

I called an assistant. Dr. Hubler soon came in and we improvised a table consisting of saw horses and boards. Sent out for boiled water and wash bowls. I sponged the coal dirt and cinders from protruding viscera and found two holes in head of caecum with discharge of fecal contents. I trimmed the edges of bowel and closed by using the Lembert's Suture, and used catgut, as I did not have fine silk. I returned all viscera to abdomen and used sterile pads of gauze over the wound, sent patient to hospital, where I was assisted by Dr. McFadden. Dressings were removed, abdomen flushed with warm salt solution and wound closed by through and through silk worm gut and no drainage, as the fracture of the Ilium and lacerated soft parts were in more danger of infecting the wound if I used drainage. Made a counter opening of the skin on back and put in gauze drain for lacerated wound of the compound fracture; brought bone up in place with adhesive plaster and many tailed binder.

The patient's bowels did not move for seven days. His temperature was never above 102, mostly from 99 to 101, and came to normal on 26th day and remained so till patient went out of the hospital on the 78th day, perfectly well and is now a miner.

The points of interest in this case are closing gut before re-

moving patient to hospital; and closing abdomen without drainage, as I believe some would say it was a hopeless case as everyone expected he would die before he reached the hospital.

CASE 2. H. C., admitted to hospital July 28, aged 14 years. Was riding in a freight car, jumped off, and in trying to get a pail of berries fell under the car. Had his right arm torn off at shoulder, leaving about two inches humerus, the scapula ground in pieces and all the soft parts torn and coal dirt ground in tissues. The arm was completely severed and was found lying near the body, left ear was just hanging by the skin and large scalp wound. The boy was etherised, head of humerus dissected out, also whole of scapula; had to ligate the axillary artery and one other. As the patient had lost lots of blood, I hastily brought skin flaps over and sutured; stitched the ear on and closed scalp wound, put patient in bed, gave stimulants and infusion of salt solution under skin and by bowel. In three or four days the skin flaps all sluffed so I removed all sutures, cut away all sluff, dressed with moist gauze. In just two weeks began skin grafting and patient went out of hospital on September 21st. Fifty-six days in hospital.

SIGNIFICANCE OF ALBUMINURIA.

BY DR. H. L. WHITNEY, PLYMOUTH, PA.

READ NOVEMBER 18, 1903.

Since the writings of Richard Bright called attention of the profession to the various forms of kidney disease in which albumen was the chief symptom, much stress has been placed on its presence in the urine. In fact the term albuminuria has been almost synonymous with Bright's disease, and this is still the popular belief.

All writers contend that the kidneys are either abnormal in structure or circulation. Albuminuria is not a disease nor invariably a symptom of disease. It may be a symptom of one of the most incurable diseases, or on the other hand, may appear in the urine of a person in perfect health with no disease what-

ever. Conversely we may have an advanced stage of Bright's disease with no albuminuria. Hence, if the above be true, albuminuria as a symptom per se, amounts to nothing. Some of the cases in which there is an abundance of albumen are amenable to treatment, while those in which the supply is scant are the most incurable and grow progressively worse.

The source of albumen in the urine is necessarily some part of the genito-urinary tract, although pus cavities draining into some may cause a profuse supply of it. The causes of albumen in the urine may be divided as follows:

First. Organic diseases of the kidneys or heart.

Second. Functional kidney or heart diseases.

Third. Catarrhal conditions of the genito-urinary tract.

Fourth. Intermittent, cyclic or physiological albumunuria.

It is not within the province of this paper to discuss organic diseases of the kidneys and heart but as far as the urine is concerned, the diagnosis can only be made by a microscopical examination and careful study of the sediment.

In albuminuria of valvular disease of the heart the symptom is really a functional one, caused by venous stasis and microscopically shows no active kidney change. In cases of cirrhotic kidney we may have no albumen at all. I remember a case presenting all the symptoms of arterio-sclerosis, in which the urine was apparently normal except as to light specific gravity, but microscopically very small calibre hyaline and scarcely discernible fine granular casts were found. Later, the urine became very scant and dropsy set in but with a mere trace of albumen. On post-mortem it was found that almost nothing of kidney structure remained other than fibrous tissue.

The functional diseases of the kidney and heart producing albuminuria are so many and well known that it is hardly necessary to more than enumerate them. Any undue action of the heart may produce a small amount of albumen in the urine. If the circulation is too strong we get arterial congestion, if too weak venous stasis, either of which will produce albumen in the urine. Pressure from the enlarged uterus, tumors, ascites, floating kidney and compensatory activity in doing the work

of other disabled organs will produce it. Febrile diseases drugs, diets and epileptic seizures may cause small amounts to appear. Any catarrhal condition of the genito-urinary tract. such as pyelitis, cystitis, urethritis, spermatorrhoea and all pyogenic diseases of the uterus and appendages will cause small amounts of albumen, but all these are readily differentiated macroscopically and microscopically.

It is the intermittent, cyclic or physiological albuminuria that causes so much dissension. Some authors deny its existence, alleging that there is always renal disease. Others explain it as a relaxed condition of the system which permits the exudation. The albumen which passes through the kidneys is nothing more or less than blood serum and at some point will coagulate and mould tube casts. Any detritus at point of coagulation will become adherent to the casts. Munn found albumen in eleven per cent. of cases presenting themselves for life insurance, supposing themselves healthy and having no lsions of heart or lungs. He does not give results of microscopical examination. The causes of intermittent albuminuria, as outlined by Edes and Delafield, are changes in the composition of the blood or in the walls of the renal capillaries. The subjects are young males in perfect health.

I will close my paper by giving notes of two cases which were typical.

Case 1. (Notes during the years 1886-7.) Male, aged 25; single. Graduated at college one year previously. Robust and compactly built. Never sick since childhood. Never had scarlatina or diphtheria. Studied law during two years under observation, exercising moderately, drinking one or two glasses of beer daily. Occasional indulgence in sexual intercourse. Eldest of a family of eight, all in perfect health. During an insurance examination albumen was found. A series of observations were taken with following results. All percentages are by bulk.

November 21, 1886, 1 per cent. albumen. December 5, ½ per cent. albumen, p. m. urine. December 14, after breakfast, 1 per cent. s. g. 1020. Year 1887, January 1, on rising,

½ per cent. Same day, 8:00 p. m., after hearty new year's dinner, 20 per cent. January 2, 4:00 p. m., 10 per cent. The microscope showed three hyline casts on one slide. Another slide showed one large calibre hyaline cast with a tuft of epithelium resembling a glomerulus, one hyaline cast with round epithelial clump on it. January 9, after dinner, s. g. 1022, 3 per cent. March 16, after breakfast, s. g. 1030, neutral, 20 per cent. Same day, after dinner, 1028, neutral, 5 per cent. after supper, s. g. 1028, neutral 7 per cent.

Microscopically these specimens showed two degenerated clumps of renal epithelium, five Malpighian epithelium groups on muco-hyaline casts; numerous imperfect hyaline casts and mucous-like strings; two fatty compound granule cells; some granular epithelium and granular debris; one large muco-hyaline mass with degenerated epithelium on it.

March 23, after dinner, 13 per cent.; March 25, after dinner, 14 per cent.; April 13, on rising and walking to office, 1 per cent.; at 5 p. m., same day, 60 per cent.; May 26, 5 per cent.; June 5, p. m., urine 5 per cent. microscopically numerous irregular hyaline casts, numerous clumps round granular epithelium, one imperfect waxy cast with some granules on it, one clump granular epithelium on a mucous cast; a few white blood corpuscles were found.

The patient during all this time was under treatment by the usual remedies, mainly Basham's mixture, but with no diminution in the variable amount af albumen. I ceased my examinations and stopped treatment but had patient report at intervals of three months.

I took no notes of these infrequent visits, but during a period of two years occasionally found albumen but in diminishing quantities. I have examined the patient once annually for past five years and have found no albumen. During these fifteen years the patient has emerged from a youth of 5 ft. 10 in., weight 145 lbs. to a weight of 185 lbs. He has indulged quite freely in alcoholics, been out late nights, eaten veary heartily and at irregular intervals, all of which predisposes to

Bright's disease, but still he is sound. During 1890 he had a severe attack of pleurisy, accompanied with albumen.

Here we have a typical case of albuminuria of adolescence with amount of albumen running from one-half of one per cent. to 60 per cent. Some of my hearers may contend that the microscope revealed a degeneration of the epithelium of the kidneys and that we had a case of desquamative nephritis. I considering the shedding of the epithelium normal and such as would occur from any active membrane. If one makes diligent search some debris may be found in at least one-half of all specimens of urine examined.

CASE 2. Male, aged 26. Five years previous had rowed bow in college eight. Also ran a two-hours go-as-you-please, tiring out all competitors. Heart slightly hypertrophied. Pulse 60, full, strong and regular. Accentuation of second sound. One and a half years previously had a severe attack of typhoid fever. Measels only during childhood.

October 27, 1886, p. m., urine showed 10 per cent. albumen. October 29, on rising, no albumen. November 1, on rising, no albumen. After breakfast, 5 per cent. November 25, 5 per cent. Two typical small hyaline, one large hyaline, one very long convoluted hyaline casts were found. November 28, s. g. 1022 albumen 8 per cent. One long very much convoluted typical hyaline cast, numerous irregular but compact strings not unlike mucous, one typical delicate hyaline with few fine granules on it, margins slightly roughened; one typical faint hyaline cast rounded at one extremity and tapering, one very typical small hyaline cast were found. December 28, on rising, s. g. 1008 albumen one-fourth per cent., no casts found. Noon of same day s. g. 1025 albumen 2 per cent.

December 29, rising, trace of albumen. Noon of same day, s. g. 1030, albumen 4 per cent. December 30, ten a. m., after breakfast consisting only of two glasses of milk, s. g. 1010, albumen, one-half per cent. Four p. m., same day, s. g. 1020, albumen 8 per cent.. December 31, Bethesda water and milk diet all day. Remained in bed all day as an experiment with result that no albumen was found in total product. Jan. 1, at

noon, s. g. 1015, albumen trace. Microscope revealed numerous oxalates, a hyaline mass with epithelium on it, a collection of seven small round columnar epithelia from kidney, one typical hyaline, numerous typical irregular hyaline, one very long, broad irregular hyaline with one end consisting entirely of small round columnar epithelium, one granular epithelial clump consisting of twenty pieces of columnar epithelium, some granular epithelium on a mucous like mass.

For a period of eight months no examinations were made, the subject enjoying his usual good health. September 11, 1 per cent. albumen. September 12, 1 per cent., after breakfast, 13 per cent. after dinner. September 21, three samples gave 15 per cent., 2 per cent., 5 per cent. September 22, 11 a. m., 10 per cent., 2 p. m., 10 per cent. September 23, 11 a. m., 5 per cent. September 24, 11 a. m., 25 per cent. October 10, 8 per cent. October 11, 25 per cent. October 19, 50 per cent. October 20, 20 per cent. November 17, 50 per cent. December 6, 5 per cent. December 7, 5 per cent. January 5, 1888, 25 per cent.

The urine on rising would invariably contain no albumen or the merest trace.

In addition to the above two years incomplete record, the urine was examined monthly for years 1888 and 1889 with the result that albumen was found during the active part of the day gradually diminishing in quantity. For the past thirteen years none has been found.

As in case 1, the patient has enjoyed perfect health. He developed from a 5 foot 11 inch youth of 132 lbs. to a strong and robust man of 175 lbs. Works hard daily and dissipates some. In this case you will note that twice within a month the urine contained 50 per cent. albumen but with no other symptoms.

These two cases would apparently prove that we may have a functional or intermittent albuminuria with microscopical evidence of normal exfoliation of secreting epithelium of kidneys without imparing the health or being the fore-runner of some subsequent serious lesion.

The question of decapsulation of the kidney may eventually

throw some light on the aetiology of intermittent albuminuria but for the present, any one of us finding 50 or 60 per cent. of albumen by bulk will at least be apprehensive until further investigation is made.

In fact albuminuria as a symptom may be compared to a cough. It would be just as logical to diagnose a case of phthisis from the cough as to diagnose a case of Bright's disease from the mere symptom of albuminuria.

DISCUSSION.

DR. ROE.—The difficulty which one encounters in exactly locating the source of albumin in the urine, was well illustrated in the case of a gentleman who came to me some time ago, for examination for life insurance.

Two examinations of the urine, made at separate times, showed the presence of quite a perceptible quantity of albumin. I advised postponement of his insurance, and that he consult his physician, regarding his condition.

I did not see him for some time again, but after several weeks, he came in, and there was still decided traces of albumin. I then questioned him more carefully than on the original examination, to ascertain the cause of the albumin. I examined the specimen he gave me at the time, and found large quantities of pus, but where it came from was not clear. I advised him to come again. He did so, and told me on this occasion that he had suffered some years before from gonorrhoea. I thought the pus possibly might be due to an old urethritis which still existed. He came a third time, and I had him pass an ounce of urine in a graduate, and the remainder in another vessel. The first contained a large amount of pus, while the second specimen was entirely clear. This cleared up in my mind the source of the pus. I never saw the man after that, and do not know whether he got the insurance or not. It was an interesting case from that point of view.

DR. WOLFE.—I had a case of operation for urinary calculus. This man had all the symptoms of stone in the kidney, decided tenderness over left kidney, blood in the urine, &c.

I made the usual incision over the kidney. The kidney was easily delivered into the wound. I incised the kidney and punctured it in a number of places with needle, but found no stone. The wound healed nicely and he has never had any

trouble in that region since. The symptoms have entirely disappeared, except some blood at times.

I have examined the urine many times. I have examined the bladder with cystoscope, but have yet failed to gain any information from that source. He has no distress or discomfort, and seems to be in perfect health, apparently normal in every other way.

DR. GUTHRIE.—The subject has been so completely discussed that it seems superflous to add anything more, but there is one class of cases in which albumen is sometimes found in the urine, and not indicative of kidney trouble; I refer to women having muco-purulent vaginal discharge.

In these cases I have frequently found albumen in urine voided naturally, and failed to find it in a catheterized specimen.

A CASE OF PROBABLE RUDIMENTARY UTERUS.

BY DR. J. I. ROE, WILKES-BARRE, PA.

READ NOVEMBER 18, 1903.

The case which I have to report is not one of special practical interest, but is a case that is so rarely met with, that I thought it might be worth while to record it in the transactions of this society.

The patient, Mrs. S., was born in Sweden 35 years ago. She came to this country when she was about twenty, and worked as a domestic until about one year ago. Her general health has always been good, her only illness being nervous headache, from which she suffered quite severely four or five years ago. She and her friends attributed this to the fact that she had never menstruated. I was called to see her February sixteenth, 1903. She was married February fourteenth, two days previous. I found her in quite a state of alarm over the fact, that, at last, "her monthly sickness had come on;" indeed, the vaginal hemorrhage was quite considerable.

Upon examination I found the external genitals normally developed. The vagina was of normal length, but had evidently been of somewhat smaller calibre than normal. The hemorrhage was due to several distinct lacerations of the vaginal mucous membrane.

Sexual intercourse had been attended with considerable difficulty and pain, and its complete accomplishment had evidently been the cause of the lacerations.

Examination with the speculum revealed the fact that the vagina terminated in a blind pouch, there being no sign of any cervix uteri. Digital examination, both by vigina and rectum, with bimanual palpation, failed to reveal any uterus or appendages, and I was inclined to think there was entire absence of internal organs of generation. Packing the vagina with sterile gauze controlled the hemorrhage, and the next day the patient seemed entirely well.

I saw her recently, and she assured me there had been no further trouble, and apparently her married life was a happy one.

From a somewhat careful review of the literature of the subject, I am inclined to believe there was probably a rudimentary uterus, as the conditions under which the examination was made were such, that a small nodule or band of fibrous tissue might not have been detected.

Kussmaul, in 1860, was the first to write an exhaustive treatise on anomalies of the pelvic organs, and to explain these genital defects upon arrest of development in fetal life. Until then they were considered the result of accident or caprice.

The entire genital tract originates from Muller's ducts, the uterus and vagina being formed by the junction and fusion of the lower two-thirds, and the upper united section forming the tubes. The fusion of the lower two-thirds is nearly complete about the third month of fetal life. An arrest of development immediately before or after that period of fetal life will result in various malformations of the uterus or vagina.

An arrest at a still earlier period of fetal life must result in the absence of the uterus and vagina.

A number of cases of absence of uterus have been reported. Burrage (American Journal Med. Science, 1897,) made a very careful and complete collection of the statistics on the subject, and cited three hundred and sixty cases of absence of uterus reported by two hundred and thirty-nine authors from the beginning to the present time, attributing three hundred to the

last (nineteenth) century. Of these three hundred and sixty, twenty-five were made at autopsies. In the large majority of the remainder the diagnosis was made by palpation of the pelvic organs. In comparatively few therefore was the diagnosis coroborated at operations or autopsy.

It has often been claimed that the uterus was absent in cases in which such an assertion was not warrented by the examination. All observations which regard living persons must be eliminated, as the uterus may be so rudimentary as to escape detection even by the most skillful examiner. The total absence of the uterus can only be proved by a careful post mortem examination, and even then the observer is apt to be led astray. He must differentiate a rudimentary uterus from a fallopian tube, the limit between the two being the point of insertion of the round ligament. The complete absence of even a rudimentary uterus is rare. In our own literature we have two cases examined post mortem by Dr. I. E. Taylor, and there are a few other authentic cases on record. The absence of the uterus may be found alone but is more commonly combined with other developmental faults of the genitals or other parts of the body.

1. In some cases, in the place of the uterus, there has only been found a globular, solid, fibrous mass the size of a hazlenut.

2. In Negor's case, the uterus was reduced to a narrow, flat, muscular band, without any cavity, forming a transverse arch in the pelvis.

3. A transition form is characterized by the presence between the bladder and rectum of a body, which has somewhat the shape of the uterus, and which is composed of connective tissue and interspersed muscular fibres.

DISCUSSION.

DR. GUTHRIE.—I have seen two patients in whom there was, apparently, a congenital absence of vagina, uterus, and appendages. Both had never menstruated, both were married.

Very careful examination by means of a sound in the bladder and finger in the rectum failed to reveal either uterus or

ovaries, although, I admit the correctness of Dr. Roe's statement,, that these organs may be so diminutive as not to be revealed except by abdominal section.

Some two years ago I was consulted by a young woman who contemplated matrimony, who had never menstruated. There was an apparent absence of vagina, and other organs of generation. Upon careful examination, however, I found a rudimentary vagina that would admit a silver probe three or four inches.

I gradually dilated, using sounds and bougies until a vagina of about normal length and diameter was secured.

Kelly does not approve of this practice, and says that contraction will take place as soon as efforts at dilation are abandoned.

I had a hard rubber obturator made which she wore for several months. The last time I saw her the vagina was of good dimensions, and she had not worn the obturator for three months.

A FREE (PARASITIC) TUMOR IN THE ABDOMINAL CAVITY.

BY DR. W. G. WEAVER, WILKES-BARRE, PA.

READ DECEMBER 2, 1903.

I have to report to-night the second free abdominal tumor I have encountered within the last three years. The first was a large cyst, weighing about forty pounds, and complicating a pregnancy in the eighth month. This tumor, many of you will recall, proved to be an immense hydro-nephrosis. It was removed without any interruption to pregnancy, the woman being delivered six weeks later, at term, of a healthy child. She has since given birth to another child and she appears to be in perfect health. The special point of interest in this case is the fact that the tumor was free from attachment to the ureter and the blood vessels, it deriving its nourishment apparently from the peritoneum, from which it was easily stripped, without any hemorrhage. Like the tumor I shall now describe, it was in that sense parasitic in character.

Mrs. ——, aged 49, mother of ten children, all living and in good health. In the month of May, 1897, she consulted me for an eroded condition of the cervix uteri. There had been a bad

laceration of the cervix, the mucous membrane protruded, and it was very much inflamed. She was much exercised about her condition, as her mother had died of cancer of the uterus. The appearance of the cervix was suspicious of malignancy. I curetted thoroughly, and performed a trachelorrhophy, removing all suspicious tissue. The report of the pathologist pronounced the tissue removed non-malignant. She had no further trouble, and remained in good health until about March 14, 1901, when she began to have severe uterine pains and almost constant hemorrhage. On April 20, 1901, I operated on her, removing a sub-mucous fibroid as large as a man's closed hand. The report of the pathologist concerning this growth is that it was a fibroid, undergoing myxomatous degeneration. After this operation she was in perfect health until about December 1st, when she began again to complain of severe uterine pains, and had considerable hemorrhage. On January 22, 1902, I again removed a growth, similar in appearance, and reported to be histologically the same as the first. The size of this growth was that of a hen's egg. The patient continued well until about October 1st, when she began to complain of pain and hemorrhage, and on December 14th I dilated the cervix and thoroughly curetted the uterus, but found no growth. From this time on she remained in good health, being free from pain and hemorrhage until about July 1st of the present year, when she noticed a painful point below the umbilicus, especially when leaning against any object. She noticed this first when leaning against a fence. She suffered more or less pain from that time on. About the middle of October she consulted Dr. G. W. Guthrie, who told her she had a tumor and recommended its removal. She afterwards called me and wished me to examine her. I found an irregular tumor, lying principally to the left of the median line, and being movable, it easily slipping away from the hand during the examination. I advised an operation, and on October 20th she entered the hospital for that purpose, and on the following day, assisted by Dr. Guthrie, I opened the abdomen near the median line, and found a growth entirely free from

any organ, with the exception of a couple of small adhesive bands, and a slight attachment to the omentum. The point of attachment to the omentum can be seen on the specimen which I exhibit. The tumor weighed about seven pounds. In addition to the large growth there were several small nodules; one of which you may see attached to the right ovary. There was a similar one attached to the mesentery at its junction with the bowel and one was attached to the bowel itself. The left tube was constricted. Both tubes and ovaries were removed in the operation. The uterus was allowed to remain, because I concluded that if the growths were malignant it was useless to remove it, and if non-malignant, the artificial menopause induced by the removal of the ovaries, would probably prevent any recurrence of growths in the organ.

Knowing the history of the patient, at the conclusion of the section, I curetted the uterus. I found the sound entered about three inches. The surface was smooth, and there was no sign of any internal growth. The uterus presented a reddish appearance, was considerably enlarged by thickening of the walls, and it contained a nodule on the posterior aspect, near the cervix. At the time I removed the first tumor from the cavity, the sound entered nearly the whole length, if passed to the side of the growth. Nine months afterwards when the second growth was removed, the sound passed about four and one-half inches, while twenty-one months later, at the time of the last operation, the sound passed, as I have said, only about three inches.

The patient exhibited not the slightest sign of cachexia. She was florid, and aside from the discomfort arising from the growth, was in good health. The vagina and cervix appeared normal, there having been no recurrence of trouble there since the first operation in 1897.

The patient stood the operation well, and rallied beautifully. Her condition was excellent for the first two days, but on the third day evidence of peritonitis became manifest, and she died on the fifth day. The source of the infection is uncertain.

This case is as interesting from the stand-point of the path-

ologist as that of the clinician. I therefore append the report of Dr. Walter Davis, the pathologist of the Wilkes-Barre City Hospital, as well as the letters of Drs. Beyea and Cullen, written in answer to his letters to them, and giving their views of the character of the growth, based upon the clinical history of the patient and a study of the sections made by Dr. Davis.

REPORT OF DR. WALTER DAVIS.

Pathologist of the Wilkes-Barre City Hospital.

The specimens consist of several small tumors, the tubes and ovaries and a large tumor 25 by 17 inches; weight six and three-quarters pounds. This has a capsule, white in color, glistening and adherent. It varies in thickness. The tumor is roughly divided into four lobules, with a distinct separation by separate capsules. It has no pedicle.

There is no sign of an organ except a small portion of omentum.

On section it is white, brown or bloody at different places.

It shows evidence on section of fibrous arrangement. In consistency, it is softer than the ordinary fibroid. At one portion it has undergone cystic degeneration. One cyst is orange sized.

Histology, microscopic sections were made of the tumor in four places, of the ovary and of each of the small tumors. The sections of the main tumor show bundles running in various directions, muscles elongated and not so closely packed as in spindle called sarcoma. This I believe to be muscular tissue. Sections from the nodules attached to the intestine are of the same microscopic structure.

Sections from the nodule attached to the ovary show more cellular and less fibrous elements. The cells are round and the picture is much more like round celled sarcoma tissue.

These round tumors which were attached to the intestine, mesentery and ovary, are encapsulated, soft in consistency and in the case of the one attached to the ovary has a pedicle.

One ovary is normal in size. The other is much enlarged, due to a blood and follicular cyst.

The tubes were adherent and enlarged. This condition may have caused the infection after operation.

Remarks: If these tumors are metastatic, secondary to sarcomatous degeneration of an intrauterine fibroma, we have an explanation which covers the whole case.

Such metastasis is however very rare.

The muscular tissue in metastatic growths from sarcoma of the uterus is exceedingly rare. Senn says, "The metastasis of muscle fibre is almost unique." He mentions two cases, one in which the secondary deposits occurred in the liver and formed a primary growth in the stomach and one where similar metastatic deposits in the diaphragm followed a primary myosarcoma in the kidney.

If these tumors are not sarcoma they are very hard to explain. True a fibroid may lose its pedicle and be nourished by adhesions, and fibroid nodules do grow on the ovary and rarely on the intestine, but for all these things to occur in a case of recurring fibroids of the uterus makes the story too complicated. Furthermore, they are too much alike microscopically to have a separate origin.

Nevertheless, from a histological standpoint, independently of its clinical aspects and its suggestive gross pathology, I must confess that I would be unable to positively state that it is a sarcoma and not a myoma.

To excuse this, I must fall back on Virchow's saying that if you add a few cells to a fibroid and substract a little from the intercellular substance you will have a sarcoma. In the same vein, Cullen says, "We sometimes have specimens where it is impossible to say absolutely whether a given area is really sarcomatous or merely a suspicious or benign growth."

I submitted the specimens from the main tumor to another pathologist, without the history, and he thought it looked like uterine muscle.

I also sent a number of slides to Dr. Beyea of Philadelphia, and also to Dr. Cullen of Baltimore, and their reports are added hereto.

Dr. Walter Davis,
24 So. Washington Street,
Wilkes-Barre, Penna.

Dear Doctor:—I have been out of town all day and only to-night received your letter. Very unfortunately the sections are at the Ayer Laboratory, Penna. Hospital, and there is no way of my getting them to-night, or so that you will receive them in time for the meeting. I am, indeed, very sorry.

There is no question of doubt in my mind but that the case is one of myo-sarcoma. There seems to be good evidence, in one of these sections particularly, that a metaplasia of myoma cells into sarcoma cells is taking place. The tumor, therefore, being a sarcomatous degeneration of a myoma. From the history which you sent me, and the relations and position of the tumor at the time of operation, no absolute statement as to the origin of the growth can be made. That submucous myomata were removed from the uterus and at the time of this last operation a myoma was found in the uterine wall, with the fact that the new growth is a sarcomatous degeneration of a myoma, would point to a uterine origin. The case thus being one of sarcomatous degeneration of a pedunculated subserous myoma which had become detached from the uterus. It should not, however, be forgotten that such a tumor, a fibro-sarcoma, might have its origin in a retroperitoneal lymph gland. Dr. Longcope, Director Ayer Laboratory, is about to report such a case. The sections show a similar change to those of his case, and he is inclined toward this latter belief.

We have not, as yet, made sections of the tissue you sent me. When we have studied these sections I will report to you. Again regretting that I am unable to send you sections to-night, I am,

Very sincerely yours,

H. D. Beyea.

Nov. 17, 1903.

Baltimore, December 11, 1903.

Dr. Walter Davis,
24 S. Washington Street,
Wilkes-Barre, Pa.

Dear Dr. Davis:—Your communication of the 21st inst. was promptly received but the sections did not reach me until two days after the letter. I was very much interested in the report of your case. The amputated cervix was evidently benign, otherwise you would probably have had evidence of a return in the vagina. It is rather unusual to find a tumor weighing over six pounds independent of any organ, in other words, parasitic in character. We have had several instances in which myomata have lost their connection with the uterus, but here as a rule, they were either adherent to the omentum and from it derived their blood supply or had become firmly attached to the peritonium at some point, particularly at the pelvic brim. The recent clinical history in this case is rather significant of so-called recurrent fibroid in that there have been masses expelled from time to time. The section marked "parallel with the capsule" is composed of typical non-striped muscle fibres and looks very much like an ordinary myoma. The one marked uterine myoma is myomatous tissue undergoing degeneration.. There are areas undoubtedly sarcomatous in character and I thought that I was able to trace the transition from the muscle fibre into the malignant cell. The specimen marked No. 21, is muscle undergoing degeneration. Sections from the nodules attached to the intestine and to the ovary look very much like a spindle-celled sarcoma. I should have liked very much to have seen the gross specimen. Judging from your description of the case and from examination of the slides at my disposal, I should be inclined to think that you are dealing with sarcomatous degeneration of a myoma and that this was in all probability responsible for the secondary nodules. Of course it is only surmise on my part as I would hesitate to make an absolute diagnosis without the gross specimen. One thing we can say positively, that this is a myomatous tumor associated with definite sarcomatous nodules. The sarcomatous nodules do not bear the typical arrangement that we find in myomata. So I would hesitate to say that the metastatic tumors contained muscle as such.

Yours sincerely,

THOMAS S. CULLEN.

VITAL STATISTICS

BY DR. ALLAN C. BROOKS, WILKES-BARRE, PA.

READ DECEMBER 16, 1903.

Vital Statistics includes the record of all circumstances affecting the production and duration of human life. The records necessary for obtaining vital statistics are those of births, deaths, marriages and diseases, which includes the registration of vital statistics. The comparison of the records with each other and with the statistics of the living population as per census, comprise vital statistics proper.

And as births, deaths, and diseases, seldom marriages, are life long companions with the doctor in his profession, he, together with the clergyman and undertaker, naturally becomes a collector for the registration of vital statistics. The physician also studies vital statistics, and applies the same in making hygienic rules for mankind, more than any other class of men. The lawyer often finds a record of a birth, or marriage or a death an important matter in legal proceedings. An insurance company often detects fraud by means of a birth register or a death certificate. The school-teacher can exclude scholars coming from homes infected with disease, where infectious diseases are registered. And all classes are protected in many ways, in just the proportion in which the registration of vital statistics is carried on. The systematizing and collecting of vital statistics has made rapid strides during the past two decades, yet it has much to accomplish for the future. At first, the record of births, deaths, marriages, and infectious diseases were only collected in the larger cities of the United States, since then the smaller cities and towns have become more or less organized into boards of health, and the school boards in the rural districts have become a nucleus for a board of health in the township or district in which they are situated. These various boards, of health, after collecting the statistics of their locality are then to report the same to the State Board of Health which is composed of six members, appointed by the Governor of the State. These men, mostly physicians, do not

receive any compensation by the state, except the secretary, who receives the princely sum of two thousand per year, which is lower than all other state department heads. The state secretary of the board of health systematizes the various local reports and presents them yearly, in bound form, for the use of the public. In our state the report of the state board is printed in two volumes.

Then the various state boards of the United States and Canada meet yearly in convention and papers and resolutions on preventive medicine are read and acted upon. This body, called the Conference of the State and Provincial Boards of Health of North America, have held eighteen annual meetings. They are a great power in inducing state and national legislators to enact laws which protect mankind. They deal with such questions of public interest as collecting of city garbage, pure milk, pure and unadulterated food, pure water supply, vaccination, methods of stamping out yellow fever and the mosquito and its relations to malaria and yellow fever. In fact, they become an organized, active, energetic body of medical men who investigate the cause and spread of dieases.

We see that lately vaccine and anti-toxin laboratories are inspected by the national government, following out a suggestion of the Conference of the State Boards of Health. We also note, in passing, that the United States in its last census devoted two large volumes to vital statistics, which we have in our library here, and these two volumes would be much larger if more states were up to the standard in regard to collecting vital statistics. All the medical profession have recently received a pamphlet from Dr. William A. King, giving a national classification of the causes of deaths as adopted by the United States Census office. It is the intention to have not only a classification of deaths national but international. It is more important that there be a general uniformity in classification of disease than that we obtain absolute correctness in the assignment of each individual cause of death. This pamphlet follows Dr. Bertillon's international classification. Following out this same line of uniformity of reports, at present there is a com-

mittee composed of the Conference of State Boards and of the American Public Health Association and the American Medical Association which are looking over the various forms of reports of the states and cities.

In this work the United States Census Bureau has co-operated and has collected samples of the various forms at present in use in nearly all of the registration offices of this country, for the purpose of analysis and study by the above mentioned committee. It is a difficult task to study all these forms and to formulate a report of the absolute essential tables that are to be recommended for uniform use in this country. The Committee so far have only been able to perfect an international classification of the cause of death, but hope soon to report on the other questions relating to uniformity of Vital Statistics, and also the extention of adequate registration laws.

Massachusetts and the other New England States, also New York and a few other states are leading in collecting vital statistics. Pennsylvania does not seem to be up to the standard and Luzerne County is below the Pennsylvania state standard, while Wilkes-Barre, the county seat of a quarter million people, is more deficient and lax in recording vital statistics than any other city of its size in the state. In fact, most cities of ten thousand inhabitants can show a better record than we can. We report in a very rudimentary way our losses, but take no account of our gains. A child born in Wilkes-Barre might well say, like "Topsy," that she was not born any place—she just grew. For if a notice does not appear in the columns of our daily papers or the Record Almanac, then there is no record of the child's existence. Pittston, Nanticoke and Plymouth all report births. In response to my letter written to Dr. Benj. Lee, Secretary of Pennsylvania State Board of Health, he wrote me "I know of no city of a population anywhere near approaching that of Wilkes--Barre in which births are not registered." On the other hand, there are many small boroughs, of a population of from six hundred to fifteen hundred, which do maintain a system of registration of births and report the same to the State Board of Health.

With such a deplorable condition of reporting births is it any wonder that babies cry when they are born in Wilkes-Barre?

Before starting this paper, I asked the city clerk how many children were born in Wilkes-Barre last year, of course, he was unable to tell, but since then I notice an ordinance has been introduced requiring physicians and mid-wives to record births, That brings us to another phase of the question. No doubt the physician or attendant in an obstetrical case is the proper officer, to report births, but in doing so he is acting as a public officer, collecting data for the good of the Commonwealth and there should be a small fee, not to exceed twenty-five cents, attached to reporting births. Perhaps in some cases it may be all the fee the physician will receive, beside some promises and expressions of gratitude. I advocate this method, together with other matters, in order to use every incentive to obtain complete reports. We should secure the registration of births by the payment of fees, by every appeal to private interest and public necessity. All physicians, all mid-wives and persons attending confinements should be made to report and there should be a penalty for not doing so. Then we could find out how many persons are illegally conducting obstetrical cases.

In regard to reporting marriages, that duty falls on the clergymen and can easily be collected on account of the contracting parties being obliged to procure a license.

In reporting deaths, we are all aware our blanks are very unsatisfactory. There is no place to report occupation of deceased and they are very incomplete when compared with the uniform international blanks. I have a sample of this kind of blank as in use in Scranton. I think Plymouth uses a similiar one.

We do report contagious diseases in Wilkes-Barre. We are to report them within six hours after seeing the case. But if we send in a report on Saturday the Health Officer does not attend to it until the following Monday, notwithstanding that Sunday is a great day for visiting the sick. Our report of contagious diseases is of only local value, as we do not report to the State Board of Health.

Thus it is apparent that vital statistics as they are reported in Wilkes-Barre, are of no value to the state or national health boards and of less local value than if they were carried on by a better system. The fault in Wilkes-Barre lies in our Sanitary Committee which stands in the way of a Board of Health in Wilkes-Barre.

Dr. Benj. Lee, in reply to my questions, "How many municipalities have sanitary committees?" says "The only other city in this state in which the out-of-date, ineffective and slip-shod method of controlling sanitary affairs by a sanitary committee of Councils except Wilkes-Barre is Harrisburg."

We have only to go to our neighboring city of Scranton and see the admirable monthly reports of vital statistics and see their laboratory for examining tubercular sputum, etc., to compare the efficiency of the two methods.

In 1898, Dr. Walter Davis responded to a toast to Wilkes-Barre's Board of Health and favored such a board at that time. Our Sanitary Committee never attend the Conference of State Boards, they often know little about preventative medicine, and are not as progressive as boards that are composed of physicians.

At the present time our city needs a municipal laboratory, where water and milk can be examined, where physicians can send suspected diphtheria sputum and have them examined by a bacteriologist, also where blood from a suspected case of typhoid fever can be examined by the "Widal test."

All these things has Philadelphia, Pittsburg, Alleghany, and Scranton, and with our population we need this laboratory as much as the other mentioned cities. At present, we pay a physician six hundred dollars per annum for examining the water and milk, but he must furnish his own laboratory for examining the same. Now in Scranton, for one thousand dollars, per annum, they have a bacteriologist who examines milk and water, tubercular sputum, diphtheria and Widal test, together with free vaccination to those who wish it. Then at a cost of between seven and eight hundred dollars, the city has a well equipped laboratory.

Hence, it would not entail a much greater cost for Wilkes-Barre to maintain and equip a city laboratory and its usefulness would more than repay the extra outlay. Now I do think that if this necessity were made clear to the members of our city councils that they would not be adverse to enact laws creating and maintaining a city laboratory.

In closing, I would state that as vital statistics are reported in Wilkes-Barre they are of little value locally and of no value to the state, for Wilkes-Barre has not reported to the State Board of Health since 1896.

I would recommend:

(1st.) A system that would make monthly reports to the city and state.

(2d.) That births should be reported.

(3rd.) That we adopt the uniform classification of death certification as recommended by the National Committee on Vital Statistics.

(4th.) That a committee be appointed to confer with the Sanitary Committee and if possible to procure a city laboratory.

CASES REPORTED

BY DR. A. TRAPOLD, WILKES-BARRE, PA.

READ DECEMBER 16, 1903.

The two cases I desire to report are chiefly of interest on account of the obscure conditions present, which made it practically impossible to make a correct diagnosis.

CASE 1. Sister A., aged 33, occupation general housework. This patient was referred to me by her dentist, to whom she went on account of the soreness of her teeth. The dentist being unable to find anything wrong told her the soreness was due to uric acid in her system and sent her to me for treatment.

On questioning her I found that she also complained of frequent and painful urination, the pain being sometimes so great

that she was fairly doubled up. Bowels were somewhat constipated, menses regular and appetite fairly good.

Examination of urine:—Sp. G. 1022, reaction acid, no albumen or sugar. Under the microscope numerous uric acid crystals.

For a time she improved somewhat under treatment and her urinations were less frequent and less painful. After I had treated her for about six months, with more or less success, she began to complain of severe pain around the umbilicus, the pain being constant but more severe at times, she also had attacks of bilious vomiting and headaches. These attacks generally occurred at or near the time of her menstrual periods.

Having tried almost everything by this time without giving the patient much relief, I advised a careful examination under Ether to which she readily consented. We found the bladder and generative organs normal but on examining the abdomen discovered a small umbilical hernia.

Thinking there might be some omental adhesions to the hernial sack and that these adhesions might cause reflex irritation we advised operation to which the patient agreed.

We made an incision over the hernial sack, there were absolutely no adhesions but on exploring the abdomen I found the gall-bladder completely filled by a large stone. I made, therefore, a second incision over the gall-bladder, stitched it to the wound, incised it and removed the stone which I here show you.

The patient made a rapid recovery, there was practically no discharge of bile after the operation and the wound was completely healed within five weeks. The pain in the umbilical region, the bilious vomiting and the frequent and painful urination disappeared at once and to-day, about two years after the operation, she is perfectly well.

Now in this case there was absolutely nothing which would lead one to make a diagnosis of gall-stones; there never was any jaundice, no pain over the region of the liver, the only pain she complained of was over the umbilical hernia. The patient also had bilious vomiting but this always occurred around her menstrual period and rather pointed to some trouble of the

generative organs than the real conditions present. The urine was not examined for bile, but the conditions found at the operation lead me to believe that bile was never present in the urine. There was absolutely no obstruction in the hepatic and common duct. This was also shown by the absence of all biliary discharge through the wound after the operation. So, considering the history of the case, it is not strange that we failed to recognize the true condition present and regarded the umbilical hernia as the seat of the trouble.

CASE 2.—Sister B., aged 42, teacher. Came to me with a history of pain in her stomach, vomiting, had been unable to retain anything except liquid nourishment for some time and had lost considerable weight. She had been treated by her physician for about six months with very little relief and was finally referred to me for an operation. On examining her I found a smooth hard mass about the size of an orange in the region of the gall-bladder but rather farther back and thought it might be connected with the right kidney. Being somewhat doubtful as to my diagnosis I requested Dr. Guthrie and Dr. Sweeny to see the case with me and after careful consideration we came to the conclusion that we had to deal with empyema of the gall-bladder, probably due to biliary calculi and advised operation.

The operation was performed a few days afterward. We made the usual incision over the gall-bladder, but to our surprise we found that organ perfectly normal, nor was there any diseased condition of the right kidney, but we did find a marked enlargment of the liver just back of the gall-bladder. This enlargment was round, about the size of a small orange and consisted apparently of normal liver tissue. What its exact nature was I am unable to say. As there was nothing further to do we closed the abdomen. The patient made a rapid recovery, She retained her food, began gradually to increase in weight, the pain in her stomach became markedly less and at present, about three years after the operation, although she complains of some pain, she is able to teach quite a large class. The swelling, as I understand, has not increased in size. Now in this case

we had pain, dyspeptic symptoms and a rounded mass in the region of the gall-bladder and considering these symptoms we were certainly justified in making the diagnosis we did.

Now, gentlemen, these cases, while in no way remarkable, are nevertheless of some interest. They show us that in abdominal surgery, even after the most careful examination, we are frequently unable to recognize the exact conditions present and that a good many operations in this region must be to a certain extent exploratory. They also impress on us the advisabilty of making—while operating—a careful examination of all the organs located in this cavity if the case be in any way obscure.

Had we neglected to do this in our first patient we would have overlooked the gall-stones and failed to give her any relief.

CASE REPORTED.

BY DR. J. A. JENNINGS, PITTSTON, PA.

READ DECEMBER 16, 1903.

M. C., single, age 22, Polish, height 5 ft., 11 inches, weight 160 pounds, accompanied by another gentleman intended to go hunting. During their journey one of the dogs jumped from the wagon. Patient tried to coax the dog to return to the wagon, but it would not come back. Patient became angry, jumped into the wagon to shoot the dog; in extricating the gun, it exploded, the contents of the "shell" (No. 4 shot) grazed the chest one inch above and one inch to outer side of nipple, entering his arm about one and one-half inches below the shoulder joint on inner side, and coming out about three inches below the shoulder joint on the outer side, making a compound comminuted fracture of the humerus.

The accident occurred at eleven P. M., December 6, 1903. I was called to see the patient December 7, 1903, at 3 A. M. Found him sitting in a chair in a condition of shock, pulse 64, temperature 97 and eight-tenths degrees, respiration 18.

The clothing he wore at the time showed the line of the shot. I placed him in bed, removed 10 pieces of bone, about 100 No. 4 shot, and several pieces of clothing. I syringed it with potass. permanganas and sterile peroxide of hydrogen, put a strip of iodoform gauze through and through, cotton over and bandaged. I called the same morning about eleven o'clock, repeated the washing and dressing as above. I continued the same for about one week when his parents and friends decided to have him removed to the hospital.

On December 16, he was removed to the Pittston Hospital. About three or four days after admission he began to complain of stiffness in the jaws, some difficulty in swallowing; slight twitching of pectoral muscles (on side of injury) which caused excruciating pain. On December 19, he was given tetanus antitoxin every six hours which was continued; after twenty-four hours a marked change occurred, pulse 112, temperature 100, respiration 18; was able to swallow small quantity of water.

During his stay in the hospital it was necessary to give nutrient enemata. Forty-eight hours after first injection of serum his jaws again tightened. He began to have spasms; opisthotonus was marked, delirium present and about seven days after admission he died from exhaustion.

INVAGINATION OF THE BOWEL WITH SPECIMEN.

BY DR. J. T. HOWELL, WILKES-BARRE, PA.

READ FEBRUARY 18, 1903.

Clemens Limba, aged 20, admitted to the Wilkes-Barre City Hospital September 30, 1901. Present illness began two weeks before admission to the hospital. When he was taken ill, he had sharp paroxysms of pain in the abdomen, extending over transverse colon and stomach. Bowels moved three or more

times daily, vomiting occurred occasionally during the first week of the disease. At that time a physician was called who relieved him of his pain.

On admission, patient complained of severe paroxysm of pain in the epigastric region, coming on at intervals of a half hour. Hardness over transverse colon and stomach; describes pain as if a ball was rolling about in the upper part of his abdomen. Bowels regular, no vomiting. Pulse and temperature normal. Ordered hot turpentine stupes to be applied over abdomen and morphia to be given hypodermically to relieve pain. During his first and second day in the hospital he took about seventy ounces of liquid food each day, bowel movement regular, consisting of large dark brown stools. The patient not improving, it was decided to operate and try to relieve him. After the usual preparation, and assisted by Dr. G. T. Matlack, of the hospital staff, and Dr. Ashley, the senior resident physician, laparotomy was performed on the third day. The incision was not made in the median line, but transversely over the most prominent point. On opening the abdominal cavity, a large mass was readily detected in the right hypogastric region and extending over the median line. This mass was found to be an extensive invagination of the ileum into the colon, involving the ascending and transverse colon and extending to and including a portion of the splenic flexure, part of the mesentery and omentum. Owing to the œdema and inflammatory swelling, disinvagination could not be accomplished and total resection became necessary. The mesenteric attachment and omentum were tied off in small sections to prevent hemorrhage, the bowel above and below the points of section were secured by gauze bandages to prevent fecal extravasation, the portion of invagination was withdrawn and about thirty or more inches was resected. The gut was ulcered and slightly gangrenous, and an opening was found in the end of the invaginated gut, and no doubt the passing of the effete matter through that opening was the cause of the paroxysms of pain. Anastomosis was made by uniting the incised end of the intestines with the Murphy button, an exceedingly difficult operation, on account of the

difference in the lumina of the bowel. The abdominal cavity was washed out with a saline solution, the wound closed by through and through silk worm gut suture, without drainage. For the first thirty-six hours after the operation the patient had strychina hypodermically, as his symptoms required cracked ice, and later sips of hot water to allay his thirst, acidi carbolic and liquor calcis to allay vomiting. Later small quantities of milk and liquor calcis. The third day he was given four ounces of peptonized milk by rectum every four hours, and this was continued for the next five days. During that time his nourishment was cautiously increased, and by the fifth day he was able to take four ounces of milk or broth, every three or four hours, also pancreatin three grains every four hours. During the time of his rectal alimentation his bowels were flushed several times a day so as to bring away any fecal matter which might have accumulated in the colon.. On the seventh day the enema brought away a large soft yellow stool. Eighteen days after the operation he was put on a modified soft diet, and on the twentieth day he passed the Murphy button. Thirty days after the operation he was put on a soft diet, and this was gradually increased to a full diet.

Fifty days after the operation he was discharged cured. The highest range of temperature any time was 100 degrees, pulse 108, and that was during the first forty-eight hours after operation.

REPORT OF COMMITTEE ON THE DEATH OF DR. A. S. WILSON.

Whereas, in view of the loss we have sustained by the decease of our friend and associate, Dr. A. S. Wilson, and of the still heavier loss sustained by those who are nearest and dearest to him; therefore be it

Resolved, That it is but a just tribute to the memory of the departed to say that in regretting his removal from our midst, we mourn for one who was, in every way, worthy of our respect and regard.

Resolved, that in his death the Luzerne County Medical Society, has lost a true and faithful member, and the medical profession a noble worker.

Resolved, that we sincerely condole with the family of the deceased on the dispensation with which it has pleased Divine Providence to afflict them, and commend them for consolation to Him who orders all things for the best, and whose chastisements are meant in mercy.

Resolved, that this heartfelt testimonial of our sympathy and sorrow be recorded on the minute book of this Society, and that a copy be forwarded to the wife and another to the father and mother of our departed friend by the secretary of this Society.

RICHARD P. TAYLOR,
E. A. SWEENEY,
N. LOUIS SCHAPPERT,
Committee.

REPORT OF THE COMMITTEE ON LIBRARY.

WILKES-BARRE, PA., *Dec.* 16, 1903.

There have been added to the library during the year just closing 151 volumes. Thirty-six of these volumes were presented by Dr. L. I. Shoemaker and were really given in the latter part of 1902, but were not entered in the Accession Book and placed upon our shelves until 1903.

We have received from the N. Y. Academy of Medicine 46 volumes and have received contributions from Drs. G. W. Guthrie, Dr. F. C. Johnson, and Dr. L. H. Taylor of our own society, and from others, as follows: Dr. Benj. Lee, Dr. Geo. M. Crile, Dr. J. Ewing Mears, Dr. Wm. A. King, American Laryngolical Society, American Dermatological Society, American Pediatric Society, American Surgical Association, American Roentgen Ray Society, College of Physicians of Philadelphia, Ohio State Medical Society, New York State Medical Association, War Department Surgeon Gen. Wyman, Marine Hospital Service, State Board of Health of New Jersey, Medical Society of Tennessee, Medical Society of Nebraska, Massachusetts Medical Society, St. Louis Medical Library Association, Associated Physicians of Long Island, and Philadelphia Pathological Society.

For valuable contributions to the reading room and of periodicals for binding we are indebted to Drs. Chas. Long, Walter Davis, W. Clive Smith, Maris Gibson, Chas. McIntire and Lewis H. Taylor and also to numerous publishers of medical magazines who have presented copies of their periodicals through the Association of Medical Libraries.

But few new volumes were bought, the amount expended for this purpose being only $37.50. The total expenses of the library, exclusive of publication of our transactions, was $126.79; this includes the new revolving book-case, the contribution to the Association of Medical Librarians, and the amount contributed for work in the library in 1902.

The items of expenditure are in the hands of the Treasurer. The usual number of Periodicals have been on file in the Reading Room and we believe have been used by the members of the society, though to what extent it is impossible to say.

LEWIS H. TAYLOR,
MARIS GIBSON,
J. I. ROE,
Committee.

DEATHS IN WILKES-BARRE.

F. C. JOHNSON, M. D.

For the 12 months ending November 30, 1903, there were 819 deaths in Wilkes-Barre, a number 58 larger than the average for the preceding seven years. But the mortality rate was not above the average, as shown by the following table for recent years:

Year.	Deaths.	Population.	Per 1000.
1890	691	37,615	18.3
1891	631	37,615	16.8
1892	815	40,000	20.5
1893	698	40,000	17.5
1894	910	45,000	20.3
1895	846	50,000	17.0
1896	744	50,000	15.0
1897	777	50,000	15.5
1898	716	50,000	14.0
1899	745	50,000	14.0
1900	801	51,721	15.5
1901	792	52,000	15.2
1902	731	53,000	13.8
1903	819	53,000	15.4

As usual, pneumonia claimed more victims than any other disease, though not as fatal in some previous years. Increases over the preceding year include the following: Accident 30, apoplexy 1, blood poisoning 2, consumption 21, grip 6, kidney disease 17, meningitis 3, perintonitis 14, pneumonia 16, typhoid fever 8, scarlet fever 4. Diseases showing decrease include

the following: Appendicitis 1, convulsions 8, cancer 17, croup 1, cholera infantum 14, colitis 3, diarrhoea 6, diphtheria 4, heart disease 10, paralysis 2.

Typhoid fever had less deaths than for seven years, with one exception. There were 14, as against the average of 16 for seven years. The percentage of deaths as shown by the table is exaggerated, as while all deaths are reported only a portion of the typhoid cases are reported.

Cancer fell off 14 from average of 16. The number was the smallest since 1896.

Consumption had 49, which is seven above the average for seven years.

Diphtheria had more cases than in the preceding year, but had less deaths, 13. In 1895 there were 88 deaths and 130 in 1892.

Scarlet fever was more virulent than in the preceding year, as with only half the cases there were more deaths. In 1898 there was only one death from scarlet fever, but since that year there has been a steady increase, up to 18 in 1903. There have been 1540 cases in nine years, with 70 deaths.

Measles continues mild, only two deaths out of 185 cases. In nine years there have been 1,210 cases, and only six deaths. In 1898 only one case was reported and in 1901 507 cases, showing that no other disease is so fluctuating in its visitation. There are doubtless many unreported cases.

Though smallpox existed in the vicinity no cases were reported in Wilkes-Barre.

CONTAGIOUS DISEASES.

	Diphtheria.		Typhoid Fever.		Scarlet Fever.		Measles.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Dec., '02...	15	0	2	1	20	1	1	0
Jan., '03...	21	1	4	0	28	2	1	0
Feb., ...	12	0	4	3	13	1	0	0
March	12	4	7	0	14	0	1	0
April	17	2	0	1	15	1	7	0
May	7	0	3	0	20	4	44	1
June	5	1	3	0	11	1	67	0
July	13	0	10	5	9	1	22	1
Aug.	15	0	3	0	18	4	6	0
Sept.	22	2	5	2	24	1	1	0
Oct.	29	1	1	1	18	1	6	0
Nov.	14	2	15	1	15	1	29	0
'03 totals ..	182	13	57	14	205	18	185	2
'02 totals ..	162	17	34	6	409	14	66	0
'01 totals ..	86	15	85	18	227	9	507	3
'00 totals ..	140	19	61	16	198	7	49	0
'99 totals ..	166	8	48	15	223	3	144	1
'98 totals ..	160	16	84	19	88	1	1	0
'97 totals ..	169	26	58	15	69	12	229	0
'96 totals ..	266	36	145	24	51	2	14	0
'95 totals ..	299	88	77	21	70	4	15	0
'94 totals ..	—	82	—	21	—	1	—	7
'93 totals ..	—	52	—	16	—	—	—	5
'92 totals ..	—	130	—	21	—	23	—	0
'91 totals ..	—	49	—	9	—	30	—	0
'90 totals ..	—	31	—	11	—	11	—	11

WILKES-BARRE MORTUARY RECORD.

CAUSE OF DEATH.	December, 1902	January, 1903	February	March	April	May	June	July	August	September	October	November	Totals, 1903	Totals, 1902	Totals, 1901	Totals, 1900	Totals, 1899	Totals, 1898	Totals, 1897	Totals, 1896
Accident	14	9	6	5	2	3	7	7	5	7	3	6	74	44	64	57	64	48	61	78
Appendicitis	—	1	—	2	—	1	—	—	—	1	—	—	5	6	4	1	3	6	2	1
Apoplexy	3	3	1	3	2	4	2	3	2	—	1	3	27	26	30	23	10	19	18	16
Blood Poisoning	2	—	1	1	3	1	1	1	1	1	1	1	13	11	3	14	10	6	11	6
Brain Disease	—	—	—	—	—	—	—	—	—	—	1	—	1	8	3	5	19	3	33	18
Bronchitis	2	2	2	—	1	1	—	—	—	—	1	2	11	12	15	20	24	28	24	10
Convulsions	1	2	3	1	1	4	3	2	3	—	3	2	25	33	28	47	32	39	37	32
Cancer	—	2	2	2	1	—	1	1	1	—	2	2	14	31	19	27	22	15	16	14
Croup	2	—	—	—	1	1	—	—	3	—	—	—	7	8	4	4	11	8	15	14
Cholera Infantum	—	—	—	—	—	—	—	18	4	1	—	1	24	38	30	37	33	50	31	38
Consumption	5	3	5	4	7	3	3	6	4	6	3	—	49	28	46	51	44	47	34	42
Colitis and Enteritis	—	—	—	—	—	1	—	4	2	2	1	1	11	14	16	22	13	17	20	20
Diarrhœa	—	—	1	—	—	—	1	—	—	2	—	—	4	10	5	9	5	7	4	13
Diphtheria	—	1	—	4	2	—	1	—	—	2	1	2	13	17	15	19	8	16	26	36
General Debility	1	3	3	3	4	1	2	4	3	3	2	3	32	31	34	41	39	44	35	27
Grip	—	1	—	2	1	1	—	—	—	—	—	1	6	—	7	8	9	2	3	—
Heart Disease	2	6	4	8	5	6	4	4	4	3	14	6	66	76	50	55	44	46	61	43
Hemorrhage	—	—	1	—	1	—	1	1	—	—	1	—	5	4	10	—	5	8	8	7
Kidney Disease	4	3	4	6	5	5	4	3	3	1	3	6	47	30	39	22	34	22	31	20
Liver Disease	1	1	1	—	1	—	1	—	2	—	1	—	8	8	6	9	6	9	7	11
Meningitis	—	2	1	—	1	3	1	3	—	3	2	2	18	14	11	23	17	20	—	—
Paralysis	—	1	—	—	—	3	—	1	2	—	1	2	10	12	8	7	7	8	10	10
Peritonitis	2	3	1	3	1	1	1	3	—	3	2	1	21	7	18	11	9	18	13	17
Pneumonia	13	11	6	14	11	10	6	1	3	2	3	9	89	73	95	86	109	83	97	73
Still Born	4	6	9	8	4	5	7	5	6	6	3	4	67	60	69	51	57	50	79	75
Scarlet Fever	1	2	1	—	1	4	1	1	4	1	1	1	18	14	9	7	3	1	12	2
Stomach Disease	—	1	1	—	1	—	2	1	3	1	—	1	11	6	8	6	10	7	6	4
Tumor	1	1	—	—	1	—	—	—	—	—	—	—	3	1	3	5	2	3	2	3
Typhoid Fever	1	—	3	—	1	—	—	5	—	2	1	1	14	6	18	16	15	19	15	24
Weakness	2	2	3	1	—	4	3	4	2	2	5	5	33	29	39	45	22	8	19	40
Other Diseases*	3	11	4	6	5	9	7	13	7	10	6	11	93	77	78	73	50	59	62	51
Totals by Month	64	77	63	73	63	71	59	91	64	59	62	73	819	734	793	801	745	716	792	744

*Other diseases not included in the classification above, but included in the totals, are as follows: Complication of diseases 8, cyanosis 1, obstruction of bowels 7, locomotor ataxia 1, anemia 2, exhaustion 2, gangrene 2, ruptured intestine 1, purpura hemorrhagica 3, syphilis 1, whooping cough 4, catarrh 1, diabetes 6, paresis 3, erysipelas 2, puerperal convulsions 1, suicide 6, asthma 6, abscess 8, cerebral embolism 2, poisoning 1, murder 2, cystitis 1, measles 2, rheumatism 3, lockjaw 4, thrombosis 1, epilepsy 2, hanging 1, suppression of urine 1, strangulated hernia 1, intestinal indigestion 1, spina bifida 1, surgical shock 1, gastro-intestinal catarrh 1, arterial sclerosis 1, unknown 1.

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OF THE

Luzerne County Medical Society

FOR THE

Year Ending December 31

1904

VOLUME XII

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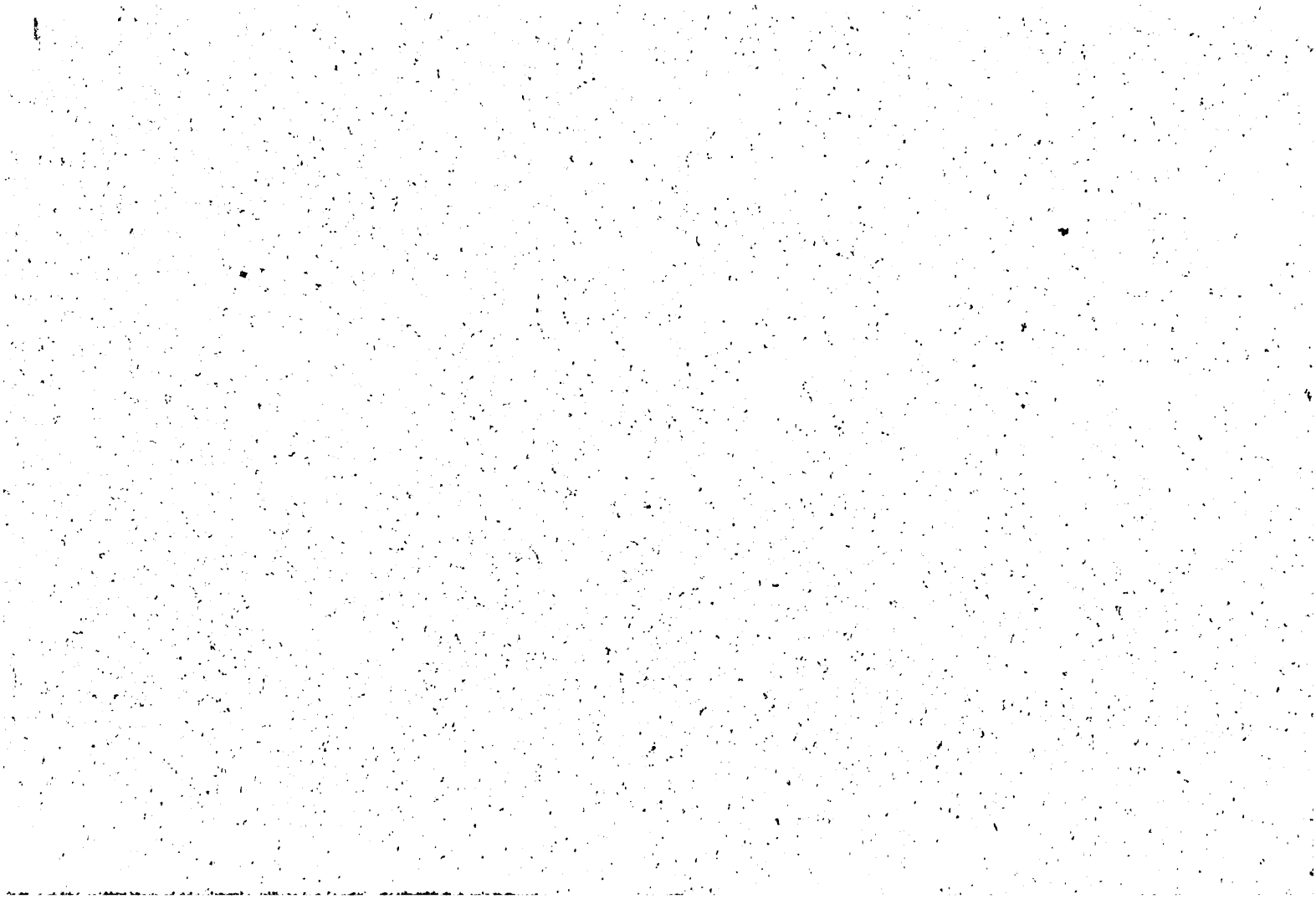

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1904.

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Committee on Medicine and Surgery.

DR. S. M. WOLFE . . . . . Wilkes-Barre.
DR. C. J. McFADDEN . . . . . Pittston.
DR. WALTER LATHROP . . . . . Hazleton.

Committee on Public Health.

DR. E. R. RODERICK . . . . . Wilkes-Barre.
DR. M. B. AHLBORN . . . . . Wilkes-Barre.
DR. CHARLES L. ASHLEY . . . . . Plymouth.

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OPPORTUNITIES.

Address of the Retiring President.

DR. WALTER LATHROP, HAZLETON, PA.

READ AT THE ANNUAL MEETING, JANUARY 13, 1904.

Standing on the threshold, and about to enter the portals of another year of professional work, let us pause for a few moments and, while remembering the past with its share of success, forgetting its failures, save to profit by them, we can look forward to the coming months, as opportunities placed before us to be embraced as seems best to each of us, and by means of which we may add our quota to the advancement of this society in the medical world, increase its usefulness to the community at large, and bring into its folds new members who are willing to ally themselves on the side of honest ethical practice, and fight against the inroads of professional deceit and chicanery.

Aristotle divides the blessing of life into three classes, those which come from without, those of the soul, and those of the body. Schopenhauer the great philosopher further reduces the fundamental differences in human lot to three:

"1. What a man is, that is to say, personality, in the widest sense of the word." "2. What a man has." "3. How a man stands in the estimation of others." A fourth blessing might be a well organized, harmonious body of medical men.

This society owes its present high standing in the profession to honest, earnest and capable work done by its members individually and collectively. From a small beginning we are near the century mark in membership, and expect to pass it before the year closes. Each individual has a part to act, and owes it to his society to add something to its efficiency during the year. The reading of a paper, the discussion of a subject, or service on committees, are all a part of the whole to be achieved.

The same care, study and research are as essential in presenting a paper before this society, as would be given to a public document of importance, for often from these scientific essays,

and the discussions that follow, are deduced facts, or fallicies. to be determined at the bedside, and the necessity for careful preparation, and accuracy of statements, and observation, is obvious to all.

To be elected to membership in this society is in itself an honor, and implies confidence on the part of those casting their votes, and putting the new member as it were on probation, though in reality accepting him as worthy of association with the profession and meriting their support. To be chosen as presiding officer is indeed the final testimony of good will and friendship, let alone any personal merit or qualification the fortunate recipient may possess. To extend sincere thanks for the honor conferred is not enough, but to further in every way possible the interests of the society, on retiring from office, by personal effort, by influence with others, and by furthering the best interests of the profession in its scientific aspects, and proving it in consultation and by the bedside, should be the earnest endeavor of us all, and thus show and prove our appreciation of the honor conferred upn us by our society. The opportunities that present themselves to us are many, but they must be grasped and used for the good of the community as well as the individual. Each of us no doubt can recall an opportunity that once was ours, if seized, but allowed to pass has never appeared again, at least not at so opportune a time. The little classic written by the late Senator Ingalls, expresses the whole thing:

OPPORTUNITY.

"Master of human destinies am I?
Fame, love and fortune on my footsteps wait;
Cities and fields I walk; I penetrate
Deserts and seas remote, and passing by
Hovel and mart and palace, soon or late
I knock unbidden at every gate.
If sleeping, wake; if fasting, rise before
I turn away. It is the hour of fate,
And they who follow me reach every state
Mortals desire, and conquer every foe
Save death, but those who doubt or hesitate,
Condemned to failure, penury and woe,
Seek me in vain and uselessly implore
I answer not, and I return no more."

There are many among us who have witnessed the stupendous developments in our science during the past few years, but none of us can realize to what extent the seed of research, shown almost daily, will bring forth in the coming months and years. Those who practice a special branch will continue to solve those problems relating to the cause of disease, and the therapeutist will endeavor to seek a remedy for the prevention or cure of it. Each department of medicine will work together for the good of all. It will be a case of seizing the opportunity offered to lead us out of darkness into light and truth. The period gone by has rung the death knell of idle theorizing that was once accepted as knowledge, and upon its dust and its ashes the new will rear such an edifice upon foundations so vast and broad that it will spread upon the face of the earth and appear like an illumined mountain, pouring forth upon humanity a stream, not of lava and ashes, but of light and knowledge unending, so that men may realize that all true majesty and grandeur, all honor and success, can be found in the search after scientific truth. We can all do our part, some by active research, some by special surgical or medical work, and all by encouragement, and cooperation with the profession at large. We can report interesting or unusual cases, and perhaps throw out a light to another who has looked in vain for just what we have found.

Science may be destructive as well as creative, but our delving within it has ever been with the single thought of the direct welfare of the man, the woman, and the child that is father to the man.

There is no doubt that the achievements of the past have done, and the conquests yet to come will do more for humanity than any other branch of scientific work. The grandeur of our progress and its achievements in the past does not mean that the workers were greater or wiser than other scientific searchers after the truth, but it means that it applies all the researches of science to benefit humanity, and prevent the future development of those scourges that have devastated the human family in the past.

There will be opportunities offered, and many will be grasped by eager hands; others will pass them by and wonder what has stopped the scientific car from passing by their doorway. Success means earnest effort, backed by determination. It is not mere chance, as Oliver Wendell Holmes has well said:

> "Be firm, the only element in luck
> Is sturdy honest old Teutonic pluck.
> See yonder shaft, it felt the earthquake's thrill,
> Held firm its base, and greets the sunlight still."

As citizens we have the opportunity, both as a society and as individuals to lend our aid and give our advice in matters pertaining to the sanitation of city or town, and I believe that the results of this society's work is being demonstrated in this city now, and we have done and are doing our share for preventitive medicine.

The inspection and examination of water and milk is under the supervision of a member of this society, and his work in turn is watched by the profession, who are ready and willing to grasp any opportunity that may present itself for the future advancement of sanitary science. Biological chemistry has revealed little to us, yet we feel sure that the science of the future will, through the discovery of reagents far more sensative than any now known, throw light upon the secret mechanism by which life is maintained, and by failure of which comes the inevitable dissolution of all. The future of microbiology is an unknown quantity, but judging from the past we will witness many and valuable discoveries. We know that true science admits of no theory, it must be facts, the application of which clears up much that is mysterious. More truth is needed, and more will be given as time goes on, and each worker in his individual field throws the light of his research into the dark mists of uncertainty, and the fact becomes indeed stranger than fiction.

In regard to surgical work, the chemist and biologist have worked wonders, but the surgeon has no easy road to travel, for while the chemist may take up another's work, and go on with it, the surgeon must stamp his individuality upon his spe-

ciality, combining prudence and boldness with gentleness and skill, that no complication will impair his judgment. Future surgical triumphs must depend largely upon improved methods, extended studies in pathology, and especially in the *closer association of the physician* who first sees and diagnoses the case, and then the surgeon who will be the final arbiter.

Our society has had in its ranks men who have done much for the advancement of the profession and whose efforts have been appreciated and whose influence has gone into State and National societies, and we have such men to-day, of whom we are proud, not envious, for their work, standing and influence helps us all and makes the Luzerne County Society well known and respected. We are known as a representative body of men and are welcome at all meetings of importance, and only a short time ago we were honored by having one of our members elected to the highest office in the State society. The same honor was conferred on another distinguished member now deceased, I refer to the late Dr. Rees Davis. We may well say:

"Thank God we can for our society claim,
No ignominious, but a noble aim;
Unlike the 'union strikes' throughout the land,
The general good we seek, and not to band
Ourselves to force submission to commands
Of selfish gain: Nor yet to make demands
Upon the people, or the public purse,
That we some pet, or tainted scheme may nurse.
As agents of this world below,
By God allowed to lessen pain and woe,
We fight the silent, miasmatic breath,
That poisons blood and brain, and leads to death."

At the present time when so much good work is being accomplished in the prevention and cure of tuberculosis, we have again presented to us the opportunity to lend a hand in this very important crusade against the increase of the dread disease. Experience has shown, and is showing daily, that by modern methods, pure food, fresh air and sunshine, incipient cases can be checked and cured, while even those well advanced are often greatly benefited. The antituberculous movement now sweeping over the entire civilized world, supported by distinguished men of all countries, has done much good by creating

an interest in a subject formerly looked on with indifference and considered hopeless.

It will not be stamped out by indirect measures alone; improvement in public hygiene, spreading the population over wider areas and personal teachings, will accomplish a great deal of good, and while we cannot change a faulty inheritance, we can at least limit the possibility of invasion of the system by the tubercle bacilli; we may have a lessened resistance on the part of the cells of the body and thus predispose to the development of the bacilli, but without it we can have no tuberculosis, and by teaching the necessary hygiene, we can at least retard or prevent its development, and consequently the disease itself. We should all be advocates of sanatoriums where these cases may be treated. We are fortunate in having one at White Haven and the work done there has already borne fruit and gives evidence of great usefulness in the years to come.

As before mentioned, sanitary science appeals to us all and none are held in greater importance by the profession than this branch. Our errors in research and investigation either reveal a mine of rubbish or else the true, pure gold. The important questions of right living, for all of us to solve, are embraced in the study of hygiene. Often in discussing the so called great matters or points, we neglect the causes which lead up to and bring on the great disasters or epidemics, although we are rapidly dispelling the mist of uncertainty, and letting in the sunlight of truth; and we as a society can do our part in helping to clear the atmosphere of doubt and despair by standing shoulder to shoulder with the earnest body of investigators who are devoting their time, money and life, to improving and enlightening mankind, and may we not all look forward to

> "A day when gladness, grief shall drown
> And dirge, to delectation rise,
> And *prophylaxis* win the crown
> From *therapeutics* envious eyes."

Time forbids the consideration of other topics of importance to us, but I would add further that our medical laws are far from perfect, and we must lend our efforts in the future to

secure such legislation as will protect the honorable practitioner from the inroads of quackery, and this can only be accomplished by first, individual effort, and then a concerted action by the entire profession. By so doing we can and will get such laws passed as will protect and not leave loopholes by which every itinerant can escape to pursue his parasitic calling.

There are others on the program for this evening and I know you are all waiting to hear from them, and it will give me pleasure to introduce to you first your President elect, and then the various victims of the committee's choice.

Let us hope that the memory of these few hours together may remain with us as bright spots upon the horizon of recollection, and permit us to work together for the good of all, with malice toward none, and may each of us seize some opportunity to aid his society, his profession, and his fellow men, and then:

"Tho' roads be rough, and feet may sometimes bleed,
Tho' friends deride, and angry zealots plead,
Who knows but truth herself, in some near day
May drop, with folded wing, along *your* way,
And in *your* hand the golden key of knowledge lay."

OUR MEDICAL LIBRARY.

*ADDRESS BY DR. LEWIS H. TAYLOR, WILKES-BARRE, PA.
FEBRUARY 3, 1904.

I haven't any paper to read to-night, because I thought on this subject I could better bring before you what was wanted, in the shape of an informal talk. It was stated in a daily paper that our Medical Society meeting would be held to-night and that Dr. Taylor would read a paper on "How to use a Library." This is not my intention. I would not presume to instruct members of this society as how they should use a library, for I think you all know how to use a library as well as I do. If you have a large, well organized institution with librarians and numerous assistants capable of rendering any service you may wish, it is not difficult to use a library; nor is it the question of how to use a medical library, but I am going to talk about "How to use our Library that we have here in this room."

*From Stenographic Notes.

It was stated to me some time last year, that I ought to give a talk to this society on what we have in our library and how it could be utilized, and it was further suggested that nobody knew particularly what was here nor how to find special articles, except the librarian and members of the Library Committee. The Executive Committee asked me the latter part of last year, to give such a talk, and I agreed to do so.

We have in our library a little more than three thousand volumes, and while it may look to you as if there had been a large increase since our last meeting a few weeks ago, from the fact that we have all the shelves filled and the large cases placed in a different direction, there has been no addition, except about forty-seven volumes; but there has been a rearrangement entire of the books in the library. Each book has been moved, and some of them three and four times, in order to get them in proper shape. We trust the time may come when we will be able to have an assistant to the librarian, so that some one will be present all the time, to assist members in finding what they wish. But in the meantime we find here a great deal of value if we familiarize ourselves with the material on hand and with methods of using it.

There are a few points that I will consider briefly to-night in reference to our own library.

First. Periodicals.

Second. Use of the Index Medicus.

Third. The Index Catalogue.

Fourth. New books.

Fifth. Some of the needs of the library.

First. In regard to our current literature. We have here on the table a number of very excellent Medical magazines, and for the younger members of the society, those who are starting out in practice, I would suggest that there is no necessity of taking a large number of magazines, for they are here for the use of the society in general; each member may have a key to this room, and come when he cares to and find plenty to read of the latest medical publications. The telephone is here, so that if he is needed he can be called as readily as if at home. I,

myself, am a subscriber, and have been for a number of years, to eleven medical magazines. This is perfect folly in a community like this, where we have a medical library accessible to all. I suppose if we could canvass the matter, we would find that the members of this society are each subscribing for from one to half a dozen or more magazines; and many of these are duplicated. There are probably a dozen who take the Medical Record, as many more American Medicine, or the Journal of the American Medical Association, and so on. Now, by a little union of our forces, we can have twice as many journals, and none of us be put to the expense of more than one journal. Of the journals which you see here none are paid for by the Society. A number are sent to us through the influence of the Association of Medical Librarians, to which we belong and to which we contribute annually, and the others are furnished by individual members.

So much for the current weekly or monthly medical literature. But suppose you may be interested in looking up some special subject and desire to know what has been written upon it during the past year.

For the purpose of finding these articles the "Index Medicus" is very valuable. This is published monthly and is an index of all medical literature. You will find the current numbers on this desk, and the bound volumes on the revolving case. The number I have in my hand is for November; the one for December will be issued during the present month probably. This comes to us month by month and is a very valuable publication. Suppose we want to look up something on tuberculosis, pulmonary tuberculosis, for instance, a subject much written about just now. I open the Index Medicus at Pulmonary Tuberculosis, and find seven recent articles on this subject, in magazines which we have here on this table. The transactions of the Medical Society of New York, the New York Medical Journal, the Maryland Medical Journal, the Journal of the American Medical Association, etc., all of which we have at our command. Suppose, however, we wish to go further back

in our search; then the bound volumes of the Index Medicus are very valuable.

This Index Medicus is a publication that was current for a number of years, but was given up for lack of patronage, after it had reached the twenty-second volume. At one time previous to this it almost ceased publication, but an effort was made to revive it, and a number of societies and individuals agreed to contribute $25.00 a year to insure its continuance. This Medical Society contributed $25.00 a year toward this fund, and that investment was for us a very good one in this sense, that it brought us into notice as one of the smaller societies contributing $25.00 a year for this purpose and helped us later in completing the set. We now have a complete set of this work. The publisher's price of back numbers was $12.00 a volume, but we succeeded in getting a few volumes at $5.00 each, and we had some of them given to us. This is a valuable work, but the next which we will consider is, I think, for us still more valuable—I refer to the "Index Catalogue of the Surgeon-General's Library."

This library is in Washington, as you know, and is under the direction of the War Department. It subscribes for every medical periodical that is published anywhere in the world, and in any language whatever, including all special journals of different medical sects. A few years ago the librarian spoke to me about the Osteopathic journals, and said that he considered them valuable as a matter of medical history, and so subscribed for them all. I asked him if he was getting the Osteopathic journal published in Wilkes-Barre, and he said, "No, I did not know there was one." I said, "There is one published right along," and he immediately subscribed for it. This is an illustration of how they take everything they can possibly get.

All the articles that are published are indexed in this Index Catalogue. That is what makes it so valuable to other libraries. The library of the Surgeon-General has more than a hundred and fifty thousand bound volumes, exclusive of pamphlets. While the Index Catalogue is not a complete index of all medical literature, it is a complete index of everything in the

Surgeon-General's library. It does not go back a hundred years and index everything written, but it indexes everything that they have.

We acquired this by buying the first eight volumes, paying the low price of $1.00 a volume. Some of the earlier volumes were hard to obtain, especially volume four.

A bookseller in Washington told me he would pay $10.00 a volume for volume four, for as many of them as he could get. Finally the New York Academy of Medicine completed our set by giving us volume four as a donation. All of the volumes of the second series we are receiving regularly from the War Department, as issued, our library having been placed upon the mailing list through the kindness of Hon. Morgan B. Williams, our former representative in Congress.

But how shall we use it? Some one said to me not long ago, "I just supposed that that was one of those government publications that no one cared for," but when I showed him how to use it, he saw at once how valuable it was.

A few words first as to the arrangement of our bound volumes of periodicals. They are now all arranged in alphabetical order, beginning at the left hand corner of case A, and passing around to the right. If you want the American Journal of Medical Sciences, you will find it in this left hand corner. The American Journal of Obstetrics follows, and others beginning with A.

We have here the Boston Medical Journal, and others in B. The Dublin Medical Journal, the Edinburgh Journal, etc., which begins there and follows over into the second series of cases. We thus continue around in alphabetical order. The volumes are arranged according to the beginning of their titles; for instance, the Journal of the American Medical Association is not under A, but under J. This is the rule in the Academy of Medicine in New York, and I think in most large medical libraries; their periodicals are arranged according to this plan. Here is an exception, however. The Medical Record is so large that it would not fit in the shelves in its appropriate place; it is not where it should be in alphabetical order. You will

find it just below. It should go ahead of the New Orleans Journal, but would not fit in, because it is too large. You will always find at the beginning of any new series a shelf label giving the name of the periodical. Understanding now the arrangement of the books, we are ready to proceed. Suppose we want to look up any article in the Index Catalogue. Take for example the subject of Dr. Roe's paper, read a few weeks ago; I take this one, "Absence of the Uterus," because it is rather rare. Turn in the Index Catalogue to uterus. I find here six columns of titles of articles on that subject. A great many of these occur in foreign journals and others that we have not, but many of them we have. I have marked a number of these titles and the first one I find is an article by E. P. Bennett, in the American Journal of Medical Sciences, in 1841. The next marked in one by Blackman, in American Journal of Medical Sciences, in 1845. So on through the list, I find on that subject, titles of twenty-nine articles in different medical journals that are in this room. But if you look on the back of this volume of the Index Catalogue, you will find by its date that it brings us down to 1894. If we want to look up articles published on this subject since 1894, we must turn to the Index Medicus and begin with volume 18. Turning back to the index, under the subject of Uterus, we find a number of articles, the first, on page 45, is in the Philadelphia Polyclinic volume 4 and 5; this we have. So we look on through this, and find the different journals in which these articles occur. We thus find thirty-eight or forty articles on this subject occurring in volumes which we have here on our shelves.

The Index Catalogue is very valuable in a library like this, where we do not have assistants constantly present to look up articles that we want. I will be very glad to have you ask any questions, if I am not perfectly clear, on this subject, before we stop.

You may look up a subject and find an article in some journal which we ought to have. It may be just what you want, and perhaps we have the volume that contains it. We have some complete sets of journals; for instatce, the American Journal

of the Medical Sciences. This we have from 1824 down to the present time. The London Lancet we have from its beginning, in 1823, almost complete, but not quite; we lack a few volumes only. We have the Edinburgh Medical Journal through all of its earlier volumes except volumes 6 and 20.

We have a large number of complete sets; some are not complete, but we will try to fill them as rapidly as we can. That is the real work of a Medical Society Library. Not to purchase all the new books so much, but for the purpose of looking up original articles, we need our files of periodicals completed.

An article was published recently in one of the journals which I have here on the desk, which emphasizes this point, that the legitimate work of a medical library is to complete its files of periodicals. While we are not able to do that fully, we have done a great deal without having bought any journals, except a few odd numbers to finish volumes which were nearly all complete. In this work we have been greatly aided by contributions from the New York Academy of Medicine, and from the Association of Medical Libraries.

One member asked in December for a certain article; I looked in the Index Catalogue and found two or three articles on this subject; one was in the Virginia Medical Monthly, volume 4, the very volume of this set which we did not have bound, but we did have ten numbers of volume 4, unbound, and one of the numbers contained the article which he wanted. I sent immediately to New York for the two other numbers, and we now have the set complete. We have spent less than $5.00 in purchasing such odd numbers as this.

This coming year we will probably spend more, but in the main, we will get those things given us as far as possible in exchange for other duplicates which we may have.

In regard to new books, we have bought very few. The society has appropriated each year a moderate sum and we have not always spent the full amount appropriated, as we have not thought it advisable to buy many new books in the present state of our finances, but if any member wishes the society to buy any book, we would be glad to have the title given us and we will see that the book is purchased.

What are the needs of the library? We need the co-operation of all of you. Dr. Purple, in giving an address before an association in New York a few years ago, made the remark that we need the help of all the members of the society, and that it is a mistaken idea that we should purchase only the new things; it is the old things we want, and he said that no scrap of medical material should be wasted or thrown away, no matter how unimportant it seems to one, it is really important, perhaps, as a matter of medical fact or medical history. He describes how he rescued from the scrap heap two important publications, one giving a description of diphtheria, in 1773, and another giving an account of an epidemic of the same in New York in 1770. This book had been sold for one-eighth of one cent, and was on a scrap heap ready to be taken to a paper mill when Dr. Purple rescued it. The Academy of Medicine, in whose library the volume now is, would probably not dispose of it to-day at any price. We have on our own shelves a work on malignant ulcerous sore throat by Huxham, published in 1775, this is no doubt diphtheria. Do not throw away your medical literature until you find out whether we can use it. We do not want, for instance, any copies of the Medical Record or of the American Journal of the Medical Sciences, or of other sets that we have complete, but we would be glad before you throw away any of your old medical literature, to know what you have.

We need your help in completing this file of current medical literature. We did have on file the Boston Medical Journal and the London Lancet, but they are discontinued. If some one of the many who are now taking the Medical Record would discontinue it and take the Boston Medical and Surgical Journal, and others co-operate with different journals, we could complete here a splendid set of medical journals at no expense to the society, and no additional expense really to the individuals. What we want is co-operation on the part of the members.

We need, also, your suggestions in regard to new books. Any that you want, suggest to the committee and the committee will buy them. You can help us also, by getting contributions

from other people. Several other members of the medical profession have been quite a little interested in this library, and have contributed some of their own works. I suggested to one author that we had a library here, and it might be a good thing to present to it a copy of his work recently published. This he did, and sent also another new book, both of which are very valuable.

We need also your criticisms. It is perhaps rather an ungracious thing to criticise anybody who is doing volunteer work, but you should do so nevertheless, because we, too, are part of the Medical Society, whose interests we have at heart. There are three of us on the committee, and we can divide the criticisms among us. By just criticism and judicious suggestions good results may be realized.

I would like to make another suggestion, and that is in regard to creating a library fund. I was interested in reading the history of the New York Library of the Academy of Medicine, which now numbers over a hundred thousand volumes. When I mentioned the fact, a few years ago, that we were working in a small way, their librarian said, "You are doing better now than we did in fifty years." They have helped us very much, and their library grew at first just in this way, by voluntary contributions. Later they established a fund for the purchase of books.

I would suggest that the fund which we now have on interest in the Miners' Savings Bank should be added to by appropriations from our treasury until it reaches $1,000; and to be then invested in some bond, the income of which could be spent only for the purchase of new books, but none of this fund should be spent until it reaches $1,000. With this as a nucleus we will at least have made a start toward establishing a permanent library fund.

I have one more thing only to add, and that is this, that I will be very glad at any time to look up any subject for any member of this society. I mean that I will, with an index, show any member just how he can find articles on any subject that he wishes to investigate. I am reasonably busy, but there is no

time that I will be so busy but that I will be perfectly willing to attend to this matter at least within the next twenty-four hours after you ask me. Let us all work to this end that we may establish something that is not only of value to us now, but that will be of still greater value in the future, that we may encourage here in this place the building up of a strong medical library.

In regard to a printed catalogue. We have the books all classified, and one of the active younger members of the society has volunteered his help to make a list of our books. We have not yet availed ourselves of his offer, but expect to do so very soon. We have not been in shape to do so heretofore. We will soon have a complete list of all the books. Whether we will have this published or not, I do not know, but we will have a card catalogue arranged and that will be ready very soon. The library has really not been in shape for you to appreciate; it has not been in such shape that you could appreciate it; but we trust it is now so arranged that you may begin to make profitable use of it.

You may notice some vacant spaces on the shelves. They are left so that as we may add other volumes in alphabetical order without making it necessary to move all the books now in place. There are some now at the binders, and when they come back we can readily place them where they belong.

I do not hesitate to ask other medical libraries for their duplicates, as most of them are glad to exchange, and are free to give to others that which they do not need for themselves. Every time I go to New York I go into the Duplicate Room of the New York Academy of Medicine to see if there is anything there that we want. Perhaps some of you could help us in getting some of the volumes that we need, either from other libraries or from individuals.

DISCUSSION.

DR. GIBSON.—I want to say that the library is more especially the work of the Chairman, Dr. Taylor, than it is of the committee. Of course we have helped some, but the incep-

tion and growth of the work, and the condition in which the library now is, is almost altogether the work of the chairman.

As he has told you, the periodicals are arranged in the way he says, and you will probably understand it was quite a little chore to take them all down and put them away again. The medical books are almost all in these two cases, and they are arranged in alphabetical order.

We hope you will help us in this work of adding to the list of periodicals and to our list of books.

We want all the papers we can get, and especially all the papers which are read and published by the members of the society.

DR. ROE.—I quite agree with what Dr. Gibson said in regard to this work. I felt quite sure when I received the card and saw the subject of the meeting, that as far as anything that could be said regarding the use of the library, after Dr. Taylor had handled the subject, it would be impossible for me to add.

I think the society has never appreciated the value of the library as they ought to appreciate it now. While Dr. Taylor and Dr. Gibson have appealed to the society for assistance, it seems to me that there is one thing that has been sadly neglected, and that is the use of the library by those of us who are members of the society. I have come over here occasionally, but I was in ignorance of the Index Catalogue and the Index Medicus. I think, from the splendid description Dr. Taylor has given us, we can come here any time and find, with very little trouble, just the article we want to get at. I think the society is deeply indebted to Drs. Taylor and Gibson in the good work they have done in arranging the library as it now is. I can speak without embarrassment in this subject, because I have not done anything myself, and I know Dr. Taylor and Dr. Gibson have spent a great deal of time at it, and now I think we ought all to make good use of the library.

DR. GUTHRIE.—I want to express my hearty appreciation for what has been done in this work, and I am reminded to-night of a great feast of which I have read; the invited guests were loathe to come to it, and the master had his servants to go out and compel them to come in. Not only has there been prepared for us a great feast, but we are being urged to come in and partake of this feast.

I know that votes of thanks are often very formal things, but I move that hearty thanks be given to Dr. Taylor and his committee, for their work on the library.

REPORT OF CASE.

BY DR. S. W. REICHARD, WILKES-BARRE, PA.

READ FEBRUARY 3, 1904.

Was called to see J. M., aged 9 years, with the history of having suddenly had a choking spell at the dinner table while eating fish.

The mother examined the throat but said she became frightened on seeing the throat full of blood and discontinued her efforts to find out what was the trouble, until they could get a doctor.

When I arrived I tried to make an examination of the throat with my finger in the hope that I could feel the foreign body and dislodge it, but the patient was so nervous and the bleeding became so bad that I decided that I must see what I was doing, or accomplish nothing.

I had the father hold the child's head on his lap facing a good light, and then held the tongue down with a spoon handle, in this way getting a good view of the throat. A long, fine fish-bone had been swallowed and was lying crosswise in the throat, with an end buried in each tonsil, from which position it was of course impossible to dislodge it by coughing or swallowing.

I was able after several futile trials to catch the middle of the bone with a haemostatic forceps and extract it, the bleeding meantime being very profuse.

The interesting part of the case was the peculiar position of the bone, it having penetrated both tonsils.

REPORT OF AN OPERATION FOR LARGE UNRUPTURED TUBAL ABCESSES, WITH EXHIBITION OF SPECIMENS.

BY DR. WALTER DAVIS, WILKES-BARRE, PA.

READ MAY, 1903.

Mrs. W., had been married four years when I first saw her. She had had no children and no abortions. Menstruation had been regular and painless throughout. About four months before my first call, she had an attack of colicy pain, lasting a few days. A physican examined her and diagnosed the tumor masses as a four months' pregnancy. A year before this time she had noticed a slight swelling in her abdomen, so that she

now believes that the condition for which I operated had existed for a year.

I was called because of a return of colicy pain, the entire interval of four months having been spent in comfort. Vaginal examination revealed a large mass filling the pelvis and pressing backward on the rectum. It felt tense. Pressing upward, the finger seemed to sink into the mass. It really went between the two enormous sacs formed by the two tubes. A sound passed into the uterus three inches. The examination gave no pain whatever. The sacs must have narrowly escaped rupture.

At the operation on the following day, I was assisted by Dr. Weaver. Adhesions were universal, but except in a few places, were not very dense. I almost succeeded in separating the tumors without rupturing them, but a thin place gave way on each side just at the critical moment, and large quantities of pus escaped and had to be sponged away. After removing the sacs, the vagina was perforated close to the cervix, and rubber drainage inserted.

The abdominal incision was closed without drainage and healed by first intention.

The patient made an uninterrupted and painless recovery. Bacteriological examination showed the pus to be sterile. I report the case in order to show you the specimens because of their great size, and because of some features in the clinical history.

While the specimens as you see them are enormous, they give little idea of their size when filled with pus. What you see are only the collapsed walls of two enormous cavities. At operation they were perhaps four times their present size. When unruptured, they filled the pelvis so sompletely as to interfere with bowel movements by backward pressure on the rectum.

The clinical history is interesting, because of the complete absence of pain, although the patient noticed the tumors for a year.

Nearly complete absence of pain and tenderness on vaginal examination, with regular and painless menstruation, are unusual symptoms in salpingitis, and would help to lead one to confuse the condition with ovarian cyst, especially as there was no history of abortion or labor to explain infection.

Many advise in such cases, simple vaginal puncture of the tubes, leaving their remains to be removed by nature. This case has turned out so very well that I do not regret having operated as above.

LIGHT AND RADIANCE IN THE TREATMENT OF DISEASE.

WITH A REPORT OF ONE HUNDRED AND SEVEN CASES TREATED BY RADIO-THERAPY.

BY DR. MAURICE B. AHLBORN, WILKES-BARRE, PA.

READ FEBRUARY 17, 1904.

When Professor Roentgen made the discovery, in 1895, that in the space around certain vacuum tubes, through which an electrical discharge was passing, there was present a form of radiation, by means of which the bones of the hand could be seen, he provided a new method of diagnosis which has become well nigh indispensable to the physician, and a new therapeutic agent.

It had been noticed by certain observers, who had been experimenting with the newly discovered X rays, as Roentgen called them, that after continued exposures to the fluorescence emanating from the vacuum tube in use, the skin of the part oftenest exposed to the rays became irritated and red, very much resembling the irritation following exposure to the strong sunlight, commonly called "sun-burn."

If the same part of the body, which in this case was usually the experimentor's hand, was subjected to a long continued exposure to the rays, without a lengthy intermission between the periods of exposure, it was noticed that the skin became dry and peeled, like the skin of a scarlet-fever patient, the nails became brittle and split easily, and if the part was covered with a growth of hair, the hair follicles were affected and the hair fell out. If the exposures were carried still further, sloughing of the integument and deeper structures took place, usually leaving a ragged ulcerated surface, which healed very slowly under any form of treatment, and persisted for a long period of time.

This peculiar action on the part of the rays showed an undoubted effect on the metabolism of the part affected, and experiments were begun in various parts of Europe, animals

being used as subjects, in order to investigate this new action of the mysterious light.

In 1897, Freund of Vienna, after extensive experiments on guinea-pigs, rabbits and other small mammals, found that the rays acted very powerfully on these animals, causing the fur to drop out, and destruction of the skin and adjacent tissues, and, after several weeks' time, if the exposures were continued without intermission, death ensued, the post-mortum examination showing degeneration of the various organs, and of the nervous system, with great destruction of the superficial tissues.

These experiments showing the effect of the new rays on the skin and other tissues, gave Freund the idea of trying their action on two cases of hypertrichosis, in one of which depillation was produced after an aggregate exposure of twenty hours, without any inflammatory reaction setting in, while in the other case, a dermatitis, which became necrotic, was set up after an aggregate exposure of twenty-four hours.

The production of inflammation in the deeper layers of the skin by the rays, suggested to Schiff of Vienna, the use of them as a therapeutic agent in the treatment of lupus, and his case, one of lupus vulgaris, in a girl fourteen years old, was treated by exposures to the X rays, the normal tissue being protected by sheets of lead foil.

The results in Schiff's case were so wonderful, that the report of the experiment set men all over Europe to using the new light, in the treatment of various diseases, particularly those of the skin.

The apparatus used by Freund and Schiff was a Rumkorff type of induction coil, illuminating a Crooke's tube of the so-called focus type. This form of apparatus was of a very primitive order compared to the kind now in general use, and the imperfections in it were in a great measure to blame for the dangerous burns, which were so often set up, as in securing a radiograph with such an imperfect apparatus, an exposure of from one to two hours was sometimes necessary. With the modern forms of X ray generators the exposure in the same case would last from a few seconds to several minutes, so that

the X ray burn should be a thing of the past, except in cases of idiosyncrasy.

Various theories were advanced as to how the rays brought about the healing process in diseased areas.

Schiff thought that the violent inflammation set up by the rays was sufficient to injure the life conditions of the micro-organisms, which caused the disease, as the tubercle-bacillus in lupus.

Albers-Schoenberg, a German experimenter, suggested that the healing came through the direct effect of the rays on the tubercular tissue itself, the reaction being aided by a hyperemia of the part, but, that a dermatitis was not necessary in the part, as in some of his cases of lupus, the nodules dried up and disappeared without any signs of dermatitis being present.

Kummel, another German investigator, suggested an electro-chemical action on the tissues, and Jankau, a Bohemian, the theory that the rays had a tropho-neurotic action.

From what we have learned in the meanwhile, both of these last named theories are partially right, and a combination of the two is generally accepted as to the curative action of the X rays since it has been conclusively shown that the rays have practically no action on known bacteria.

I have personally exposed the bacillus of typhoid fever, diphtheria, the bacillus syncyaneus, which occurs in so-called green milk, and the bacillus megatherium occuring in water, in stagnant pools, to the rays in pure culture, for from one to four hours, and have never seen any effect on the organisms in the slightest degree.

While the experiments with the X rays were being carried on in Europe, no less good work was being done in this country by such men as Goodspeed, Morton, Williams and Rice, the latter being the first one to energize a vacuum tube with the current from a static machine and obtain X rays.

As the number of men, who are using the Roentgen rays for therapeutic purposes increased, there came to light many deficiencies in apparatus, and technique, both of which were rapidly perfected under the impetus given this form of treat-

ment, when it became generally apparent that there were many diseases, which had been difficult of cure or hopeless under other methods of treatment, in which not only relief, but permanent cure was effected by the new form of light.

The apparatus usually employed in the production of Roentgen rays at the present time, is either an induction coil, of the Rumkorf type, coupled to an apparatus for interrupting the current, or a large static machine of the Wimshurst-Holtz or Toeppler-Holtz type.

There is very little choice, as to whether a coil or a static machine is best used, provided the apparatus, whatever it is, gives enough current to light up a good sized vacuum tube, say from twelve to fourteen centimeters in diameter, with a light sufficiently strong to penetrate the human thorax and take a clear radiograph of it in about eight minutes. But a static machine having less than from sixteen to twenty-four plates, with a diameter of thirty-nine inches or more, will not do this and is useless for Roentgen work, except in very superficial cases. A static machine of the size large enough to do heavy work, takes up a large amount of room, compared to a coil, and the machine will often absolutely refuse to work in damp weather.

On the other hand, the static machine gives a much clearer, steadier, light than a coil with even the best interrupter, and does not tend to blacken the tube and wear it out so quickly as a coil.

On the whole, a medium sized coil giving a spark from eight to fifteen inches long, is the best all around generator, as with a good interrupter like the Heintze, or the Wehnelt, the current can be split up and steadied until it is nearly the equal of the static current, with the production of much better X rays as to their penetrating power for radiography and therapeutic work.

The type of tube best for all round work is a self-regulating tube of the three electrode type, the best examples being manufactured abroad. This tube has a regulator with which the vacuum of the tube can be raised or lowered, and the different gradations of X light can be obtained from a very dull, irritat-

ing light, which is almost identical with ultra-violet rays, to a bright yellow radiance which will penetrate any deep-seated tissue with ease.

As to the technique of Roentgen therapy, I can best repeat the words of Professor W. F. Campbell, of Brooklyn. He says: "The technique of X ray therapy is not a science, it is an art; it is not to be learned from books, it is the product of experience; it evolutes as experience ripens, and each case demands an adjustment of the means to its particular needs."

In treating a patient with the X rays, the parts to remain unexposed are covered with heavy lead foil or some other substance impenetrable to the rays. In making shields for patients, I take a sheet of heavy lead foil and lay it between two sheets of rubber adhesive plaster, with the sticky sides turned in, several inches of the adhesive surface being left around the edge to hold the layers together. I then pass a hot flat-iron over the shield, thus sticking all the layers tightly together. This makes a soft, pliable shield, which can be moulded over any surface, and through which the sparks of the tube overflow cannot prick the patient, as the rubber plaster acts as an insulation.

I have also made myself an apparatus, consisting of a wooden box, coated on the inside with a layer of white-lead, one-fourth inch in thickness, in which a Crookes tube is fastened with the focus facing the front of the box. The box front is fitted with grooves into which slides a metal plate which is impervious to the rays, into which are fitted tubes of various sizes and lengths, through which the rays are carried to the part to be treated, the remaining tissue being unexposed, as the tube through which the rays are projected can be made to admit just rays enough for a given area.

This apparatus does away with the shield, and is of great service in throwing the light into the body cavities, through a speculum.

As to the time of exposure, and the duration of the treatment, until a cure shall have been effected in any given case, that depends very much on the condition of the patient's gen-

eral health when the treatment is begun, the nature of the disease under treatment, and whether any particular susceptibility to the rays exists.

Personally, I believe in the most vigorous treatment in the beginning of the therapeutic application of radio-active substances to diseased areas. I usually begin, in a case where the disease I am treating is at all active, by giving the patient daily exposures, from five to fifteen minutes, until the skin, if it is a skin surface, begins to tan, or redden a little, or until the patient complains of a burning sensation in the part. If it is a mucous surface under treatment, the reaction will make itself evident, by the formation on the exposed site of a thin, whitish membrane, which sometimes bleeds when stripped off, like the membrane formed by the Klebs-Loeffler bacillus, which it very much resembles.

In a case where the glands, or a large area of tissue is involved, I begin to work even more energetically, giving daily exposures of ten to twenty minutes each until the reaction sets in.

Great care must be taken to watch the patient, particularly in cases in which large growths are under treatment, as the too rapid disintegration of the growth may load the system with toxines, and grave symptoms may ensue.

In treating growths on the face and head, great care must be exercised, and at the least symptom of cerebral or meningial irritation, such as headache, dizziness, ringing in the ears, etc., which the rays may give rise to, the treatment must be greatly reduced in strength, or stopped altogether.

The healing process under light treatment, is at best a slow one, and patients have a great habit of making up their own minds that they are cured the minute the smell of an old epithelioma disappears sufficiently for them to resume taking their meals with the family.

Patients come to you with the idea firmly rooted in their heads, that an old carcinoma, which has been doing its level best to eat their faces off, for the last six years, ought to get well in a week, and some of them are so kindly, when told the

contrary, that they will tell you that you must be out of date, as so and so, the man who advertises in the papers, claims that with "the very latest attachment" he can cure them after one or two exposures. It is essential, even though it may be disappointing to the patient, to tell him when he presents himself for his first treatment, that miracles are no more the order of the day, and that his patience will surely be rewarded, if he sticks to business.

There is no branch of legitimate therapeutics, which offers such a harvest for the charlatan and quack, as electro-therapeutics, and the mysteries with which the Roentgen rays seem to be surrounded in the mind of the general public, give the charlatan, who claims to be able to do anything short of raising the dead with them, a firmer hold than ever on the credulity of the ignorant.

I now wish to present a number of cases treated by exposures to the Roentgen rays. The report covers a period of time extending from the 4th of April, 1901, to the 1st of April, 1903. This allows a period of from one year to nearly three years, in which to observe these cases, in order to note whether any recurrence took place after the ones discharged cured, discontinued treatment.

These cases were treated with the rays generated by a sixteen plate Morton (Wimshurst) Holtz static machine, and a ten-inch coil coupled to a Heintze interrupter.

In the following cases, where there is no recurrence mentioned, there has been none up to the present writing.

EPITHELIOMA CUTIS. FIFTY-ONE CASES.

Taking the diseased areas as to the locality they occurred in: On the nose, eleven cases, all cured. On the cheek, six cases, all cured. On the ear, two cases, all cured. On the forehead, six cases, all cured. On the chin, two cases, all cured. Multiple, ten cases, all cured. On the lip, upper, four cases, all cured; lower, nine cases, all cured. On the fore-arm, one case, cured.

No recurrence in any of the above cases to date.

LUPUS. THREE CASES.

Lupus erythematosus, two cases, both cured. Lupus vulgaris, one case, quit treatment nearly well.

SARCOMA. EIGHT CASES.

On the neck, two cases, both cured. On the ear, one case, cured. Of the breast, two cases, relief of pain, very little effect on growth. Of leg, two cases, one case a temporary arrest of symptoms with subsequent recurrence, the other case was irritated, and if anything made worse after a few exposures. On the upper jaw; in this case the rays seemed to stimulate the growth to greater activity after several exposures, and the treatment was discontinued.

GROWTHS ON MUCOUS SURFACES.

EPITHELIOMA OF THE THROAT. SIX CASES.

One case cured, which had recurred on the tonsil after operation. Two cases quit treatment, much improved. Three cases, all post-operative, were relieved more or less for a time, but the disease in every instance had progressed beyond help, except as to palliative measures.

EPITHELIOMA IN THE NOSE. FOUR CASES.

All four cases were cured and have remained well to date.

CARCINOMA OF THE BREAST. NINE CASES.

All but one of these cases had been operated on at least once, and two of them several times. Three cases were cured, and have not given any trouble since. Four cases quit, very much improved in health. Two cases were treated merely to relieve the pain, and as a last resort, and in this the rays were successful for a time, when metastasis to other parts occurred.

FIVE CASES. CANCER OF THE CERVIX UTERI, AND BODY OF THE UTERUS.

In two cases of epithelioma of the cervix uteri, the condition was cured, and remained so in one of the cases, but in the other the fundus began to show symptoms of the disease after a lapse of four months.

In three cases of cancer of the fundus the pain was relieved, and the odor of the discharges practically disappeared, but the general cachexia was not affected, and on the whole the rays did little good outside of the relief of the pain.

CARCINOMA OF THE STOMACH AND OESOPHAGUS. TWO CASES.

One case of carcinoma of the œsophagus, with metastatic deposits in the stomach. The result in this case, which was only treated with the rays as a last resort, was wonderful. The patient, who had hardly been able to retain or swallow liquids, was able to eat a large meal and apparently to swallow it without much trouble, after three weeks of exposures. Both tumors were greatly reduced in size, but there was metastasis to the liver, to which the patient finally succumbed eight months after treatment was begun. One case of carcinoma of the stomach in which the tumor grew smaller and some relief from pain was experienced, the disease being, however, too far advanced for anything permanent to be done.

CHRONIC ULCERS. FOUR CASES.

Two cases of leg ulcer, both of long duration. Both cured.

Two cases of tubercular ulcer of the ankle and leg. Both cured.

DISEASES OF THE SKIN.

PSORIASIS. THREE CASES.

Two cases in which the lesions were scattered over the body without any involvment of the head. Both cured.

One case in which the entire body and the head was covered with the lesions. Cured.

ACNÉ VULGARIS. FOUR CASES.

In all of these cases a cure was effected after a very few exposures.

SYCOSIS. THREE CASES.

All three cases got well, as soon as the hair of the part became loosened and was removed, the part in every instance being covered with a new growth of hair in several months' time.

ECZEMA. THREE CASES.

One case of squamous eczema, of six years' duration, was cured in a period of eleven weeks, forty-two exposures being given in that time.

Two cases of erythematous eczema, both cured in a few weeks' time.

RING WORM. TWO CASES.

Two cases, both on the scalp, were cured after about thirty exposures.

THREE CASES REPORTED BY THEIR PRESENCE AT THE SOCIETY MEETING.

I. Case of large round cell sarcoma in the neck; a little girl nine years old. Fifty-four exposures were given to the rays, each exposure lasting from ten to fifteen minutes. These exposures extend over a period of five months' time; that is, the fifty-four exposures were given in five months. This case was discharged, cured, four months before exhibited to the society.

II. Case of multiple epithelioma of the face; a woman, elderly. Twenty-eight exposures were given, and the case has been well about five months.

III. Case of probable lupus of the fore-arm; male. No tubercle bacilli were found under microscopic examination. The case had been given six exposures, extending over a period of about ten days at the time he was shown at the Medical Society. These cases were comparatively recent and have no connection with the cases reported.

From my limited experience in this branch of radio-therapy I would reach the following conclusions:

That in every case where there is a large mass present, or where there is a chance of removing the greater bulk of a growth without seriously affecting the patient's chances of recovery, either from the anesthetic or from the shock of the operation, the case should first be referred to the surgeon, and after he has removed what he can, exposures should be begun as soon as the patient is strong enough.

That any other remedial agent, known to have given good

results in certain cases of disease, such as Coley's fluid in the treatment of sarcoma, should be used in conjunction with the radio-therapeutic measures, the aim being to secure all the benefit obtainable from all the sources within our reach.

That no one should undertake to use this agent who is not reasonably familiar with its physical, physiological and therapeutic properties, and experienced in the ordinary methods of administration.

That it is a comprehensive and difficult branch of therapeutics, and should be especially provided for in medical instruction.

That there is no place in this work for empiricism.

That in competent hands it is a safe and reliable agent, capable of great good.

That in the hands of a charlatan it is an agent fraught with great mischief.

With reference to its therapeutic value I would say: That in the hands of experienced operators and with improved apparatus and technique, one hundred per cent. of primary skin cancers may be cured, and as the treatment does not destroy normal tissue, recurrences are of little concern, as the recurred growth yields much more readily than the original.

That lesions involving mucus surfaces especially about the head, are much more difficult to control, and until improved methods are devised for directing the rays upon inaccessible regions in the mouth and throat, not over from thirty to fifty per cent. of cures may be expected.

That lesions involving the cervix uteri and other accessible parts should be controlled by an intelligent, persevering, vigilant fight.

That in all cases, much relief from pain and other sensory disturbances, retardation of the progress of the disease, and improvement in general health, may reasonably be expected.

I now wish to take up for consideration the latest source of radiation utilized in the treatment of disease, namely, radium.

In 1896, Professor Henry Becquerel, of Paris, discovered that the emanations from certain phosphorescent substances, particularly uranium, would penetrate the envelope enclosing an X ray plate, which was impervious to ordinary light rays, and leave an impression on the plate of objects lying upon it. These emanations were called the Becquerel rays, after their discoverer, and their discovery led to the foundation of the science, if we may so term it, of radio-activity.

In 1898, came the announcement, by two investigators, of the School of Physics and Chemistry, in Paris, Professor Pierre Curie and Madam Curie, his wife, of the discovery of a new metal, named polonium, by Madam Curie, after Poland, her native country.

The Curies had, in investigating the Becquerel rays, found some samples of uranium ore, or pitchblende, from which the uranium is extracted, which was much more powerful than any uranium they had found, being four times as radio-active as metallic uranium. Naturally concluding that the Becquerel rays were due to some unknown substance in the pitchblende, they commenced a most careful search for it, and discovered a substance associated with bismuth, which it resembles very much chemically, which they called polonium.

In the same year the Curies succeeded in isolating a second substance found in pitchblende, which was associated with barium, and possessed many of the chemical and other characteristics of that substance, which they named radium. In 1899, a third substance was discovered in pitchblende, resembling, and being associated with thorium, which was named actinium.

Of the three substances, radium is by far the most important, and is of extraordinary interest. It is doubtful whether any substance has been discovered in the history of the world of such stupendous interest and importance and possessing such puzzling characteristics as radium, which seems so at variance with well established scientific theories as to the constitution of matter.

Some of the most wonderful characteristics of radium are as follows: That it gives off Becquerel rays continuously with-

out any change in its consistency or any loss in weight, which is perceptible, although it is apparently breaking down and disintegrating, when seen in the spinthariscope. That it maintains a temperature of 1.5 degrees centigrade above its surroundings, and will melt an amount of ice equal to its own weight every hour.

That it has the wonderful property of imparting its radio-activity to other substances, causing them to act in the same manner as it does, for a length of time proportionate to their saturation with the radiance, and their ability to hold it.

That the radio-activity imparted to other objects is due to a radio-active gas, and not to waves resembling light.

Lastly, and most important to the medical profession, it has proven itself an agent of great power in the treatment of many diseased conditions, and its emanations are of a rapidly bactericidal nature. Cultures of the micro-coccus prodigiosus were effectively killed after three hours exposure to a radium preparation, by Caspari.

The emanations from radium act on the tissues in very much the same way that the Roentgen rays do, except that the effects of the radium are much more powerful, have a greater tendency to a cumulative action, and, as the tissues are rendered radio-active to a greater or less degree, the effect of the exposure to a strong preparation of radium is very lasting. The radium emanations have an especially good effect on diseased conditions affecting the mucous membranes, which have heretofore proved very rebellious to other forms of light treatment, in fact this form of disease seems to be particularly amenable to radium emanations, and the bulb containing the radium being so small, it is easily introduced into the nose, the throat or the vagina, or even into the uterus. The radium container can also be sterilized, and introduced into the substance of a large growth, and thus the treatment becomes far-reaching, and, after the tissues have become radio-active, we have a long continued effect after the radium is withdrawn. The fact that the radium has a bactericidal effect also enhances its value as a therapeutic gent.

As the emanations kill bacteria in a short time, it was suggested by Dr. Morton, of New York, that if they could be inhaled so that the lungs would be filled with them, they might be of great service in the treatment of tubercular patients, as the tubercle bacillus would be killed and a cure of the condition result. Experiments along this line are now being carried on by Dr. Morton and Dr. Willy Myer, in New York City, but no reports have been given out as to their results as yet.

There are certain substances which hold their acquired radio-activity much longer than others, and in which it remains in great strength for quite a while. Ordinary bi-sulphate of quinine is one of these substances, and it has been suggested that capsules of quinine rendered radio-active by several days' exposure to a preparation of radium, be administered to cases of infection with bacteria, malaria, and in instances where pathological conditions, such as new growths, exist, the idea being to render the entire circulation radio-active and thus keep up a continual bombardment of the disease with radium rays.

In my own cases I have had the opportunity to try this method of treating them in a few instances, but not enough time has elapsed to enable me to make a definite report as to results.

I am also experimenting with quinine, incorporated into an ointment, to be used in skin diseases, the ointment being returned to me every three days for twenty-four hours' exposure to the radium, and being applied to the diseased area between treatments. It is also probable that the injection of a non-irritating form of quinine, or other radio-active substance, into large growths, might be of some service. It is certain that when we learn more about this wonderful substance we will find it an indispensable adjunct to therapeutics, and who can say where the limits of its usefulness will end.

I have here to-night, several samples of radium, in the form of the bromide, which I was fortunate enough to obtain from the laboratory of Professor Curie, in Paris. These samples are of 300,000 activity, and this activity you will be able to understand, when I show you photographs of different objects,

taken through two X ray envelopes and the box containing the plate in the same time that the old forms of X ray apparatus took to take a radiograph.

I have also for your inspection, the little instrument, invented by Sir William Crookes, in which you will be able to see the radium, giving off its particles of light.

I have also several cases to show you in which radium has been used therapeutically.

REPORT OF A CASE.

BY DR. CHARLES LONG, WILKES-BARRÉ, PA.

READ MARCH 2, 1904.

George Wimmers, white, aged 47 years, Catholic, born in Germany, occupation miner, married, was admitted to Wilkes-Barre City Hospital March 11, 1903.

Case.—Stricture of Aesophogus, probably Carcinoma, with Metastatic abscess of liver.

Family History.—Negative.

Previous History.—Negative.

History of present disease.—About nine months ago patient noticed that on swallowing he had sharp pain over the stomach, especially after meals. This came on immediately after swallowing solid food and would be relieved only after washing this food down with liquids. A few weeks later he noticed some difficulty in swallowing at all, particularly solid food.

About three months ago the pain over the stomach disappeared but at this time he noticed increased dysphagia, which has gradually grown worse until at the present time he cannot swallow solid food at all and there is now difficulty in swallowing liquids.

He has never vomited but complains of profuse salivation at times. At every attempt to take solid foods or any kind of food he feels that it stops about half way down the gullet, and complains of a very sharp stabbing pain beneath the sternum which radiates back into the spine and into each breast. Has

complained of a dry, short cough which has continued for the past two months. Bowels constipated as a rule. Has lost about fifty pounds in weight during the last nine months.

Physical examination.—Thin, muscular, but poorly nourished man. Pupils equal, with normal reactions to light and accommodation. Slight dorsal scoliosis of spine to left.

Chest.—Fairly well developed with normal epigastric angle. Ribs and clavicles prominent, Slight epigastric pulsation. Skin loose and flabby.

Pulse.—Full, soft and regular and equal at the two wrists. No pulsation felt over supra sternal notch.

Lungs.—Normal.

Heart.—Apex fifth interspace, midclavicular line. Outlines normal. No murmurs. Slight accentuation of aortic second sound.

Abdomen.—Flat. Nothing abnormal felt. Slight tenderness in right epigastric region.

Blood examination.—March 12, red cells, 4,000,000; whites, 10,000.

Examination of Aesophagus.—Passed large sized aesophageal bougie which meets with resistance 12¾ inches below incisor teeth. It could not be passed further along than this. No pain was experienced by the patient during passage of bougie, neither was there any hemorrhage.

March 19, 1903.—Patient has lost six pounds since he entered hospital.

March 22, 1903.—Patient has lost two and one-half pounds during the past three days. Dry cough continues. Dr. Matlack passed aesophageal bougie which met with resistance at about three inches above cardiac orifice of stomach. The smallest sized bougie was passed and was engaged in the stricture and by gentle force was made to pass within 1½ inches of cardia. The obstruction or stricture seems to taper from above downward and is about three inches long.

March 23, 1903.—Patient had a good night after passage of bougies and seemed a good deal relieved. Toward evening, however, he complained of persistent cough.

March 24, 1903.—This morning patient complains of dysphagia, the temporary relief afforded by the passage of the bougies two days ago having apparently worn away. At 4:30 to-day the smallest sized bougie was passed into the stomach after a few minutes of gentle pressure on the third attempt at insertion. At first attempt to-day patient regurgitated about ℥ij curdled milk and mucus while the bougie was inserted in the stricture.

On withdrawal of bougie from stomach a few small particles of aesophageal tissue were found stuck in the grove behind the olive tip of the bougie. These were preserved for microscopical examination.

April 1, 1903, Dr. Long took charge. (The particles of tissue were reported too small for sectioning.)

Patient has gained two pounds in weight during the past three days.

April 15, 1903.—Sputum examination: No tubercle bacilli found.

April 17, 1903.—During the past three weeks the patient has done well. Has gained 17 pounds in weight, eats macerated solid food and feels much stronger. The aesophageal bougies have been passed every other day, the size gradually being increased. There has never been any hemorrhage nor pain during passage of bougies.

April 21, 1903.—For the past three days patient has complained of severe pain in the right side of the chest at about the seventh rib, mid-clavicular line. On questioning, patient says that he has noticed this pain for two weeks and that it is growing worse. This spot is especially painful during cough.

Examination of chest.—Negative except for a few rales near the region of the pain. At this point is heard distinct bronchial breathing with large bubbling rales at seventh interspace on right side.

April 26, 1903.—Pain in chest has persisted and is now very severe. There is a great deal of cough with expectoration of large amount of greenish purulent material of a very offensive

odor. Repeated examination of sputum shows no tubercle bacilli.

Examination of chest.—Very noticeable bulging in sixth and seventh interspaces outside midclavicular line on right side. Gives dull note on percussion. Bubbling rales indistinctly heard over tumor. Liver not enlarged downward.

April 29, 1903.—Patient has lost several pounds in two weeks and is growing weaker. Temperature has been distinctly septic and the cough and expectoration have become more distressing, as has also the pain.

May 1, 1903.—Tumor in side shows distinct fluctuation. Aspirating needle withdraws greenish colored purulent fluid of very offensive odor.

Smear of this pus stained by Loffler's stain shows pus cells and micrococci.

May 2, 1903.—Culture of pus shows mixed infection of cocci and *Colon Bacilli.*

Operation.—Incision one and one-half inches long made in seventh interspace at anterior axillary line and about one and one-half pints greenish pus and broken down tissue drained off. Digital examination shows the cavity to extend straight into the liver and through the diaphragm into the lung. Double drainage tube was inserted and dressings applied. Patient became gradually weaker from the time of operation and died the next morning at 1:55.

Post mortem examination refused by the friends of patient.

REPORT OF A CASE.

BY DR. CHARLES LONG, WILKES-BARRE, PA.

READ MARCH 2, 1904.

Zazaroli Pacifico, white, age 19, Catholic, born in Italy, occupation miner, single, was admitted to Wilkes-Barre City Hospital May 14, 1903.

Case.—Typhoid fever, complicated by abscess of liver.

Family history.—Negative.

Previous history.—Negative. Has been in this country two months. Has always been well and strong.

History of present disease.—About six days ago patient began to complain of pain in back and limbs with loss of appetite, headache, soreness over left lower side of chest and a gradual increasing weakness and feverishness in the evenings. No cough, no nose bleed, no chill. For the past week has had a diarrhoea, three or four liquid stools a day and some tenderness over abdomen.

Condition on admission.—Pulse 86. Respiration 22. Temperature 101 1-5 degrees F. Tongue dry and heavily coated, breath foul. Lungs negative. Heart normal. Liver dullness, normal. Spleen enlarged to percussion and palpation. Some tenderness over abdomen which is slightly distended. No rose colored spots nor any other skin eruption.

Urine examination.—Sp. gr. 1018 acid. Dark in color. No albumen. No sugar. Nothing by miscroscope. Diazo reaction *positive.*

Blood.—Widal serum reaction positive. Leucocytes 8,000

Patient was put to bed on milk diet. Cold sponge every three hours at 103 degrees F. Ice cap to head. Hydrochloric acid dilute M. XV. four times a day.

May 24, 1903.—During the past week temperature has ranged from 101 degrees F. in the morning to 103.4 in the evening. Temperature drops from one to three degrees with each sponge bath. Bowels open every other day by enema. Some tenderness over spleen and abdomen. No rose colored spots seen. Leucocytes 13,000. Sleeps fairly well. Has not been in least delirious.

May 25, 1903. Patient has run an uneventful course up to this time. No complications.

May 27, 1903.—Temperature is beginning to decline but has not yet reached the normal line in the morning. Patient complans of dull pain in lower part of right side of back at lower edge of liver. Examination shows marked tenderness in this

region with dullness to percussion below normal line of liver dulness.

May 30, 1903.—Pain and tenderness in right side is now much more severe. Examination shows some bulging of lower part of chest and right kidney region with very marked tenderness.

May 31, 1903.—Leucocytes 19,000. Aspiration of area of bulging and tenderness shows presence of pus.

Operation.—Incision one and one-half inches long was made just below and parallel to last rib and about two pints purulent fluid and broken down tissue were drained. The cavity extended directly forward and upward into the liver. Cavity was irrigated with normal salt solution and drainage tube inserted. Culture of pus shows presence of colon bacilli. After the operation the temperature dropped to the normal line and remained there and patient made an uneventful recovery.

Diagnosis.—Typhoid fever complicated by abscess of liver.

Reasons.—History of case before admission. Condition of tongue. Enlarged spleen. Tympanites. Abdominal tenderness. Positive Widal reaction. Positive Diazo reaction. Typical course of fever during first two weeks Appearance of tenderness over liver third week of disease with rapid increase in leucocytosis. Appearance of bulging and operation disclosing nature of the swelling.

Diagnosis.—Primary abscess of liver without typhoid.

Negative reasons.—Absence of liver symptoms until the end of the second week. Absence of causative factor. Normal number leucocytes at first with increase in number only when liver symptoms became manifest. Presence of Widal and Diazo reactions and other symptoms peculiarly typhoid.

OSTEOMYELITIS.

BY DR. B. J. WETHERBY, WILKES-BARRE, PA.

READ MARCH 16, 1904.

This disease in its acute, spontaneous form, while not exactly rare, is not of sufficient frequency to keep us from making errors in diagnosis in its earliest stages, the time when a correct diagnosis is imperative if we would prevent disastrous or even fatal results. To illustrate the need of early diagnosis and prompt surgical interference I will describe, and comment upon, a case I had some years ago.

The patient was a healthy, active farmer's boy, aged eleven years. One hot day in June he turned on the wind-mill and pumped a stock-trough full of cold water. In this he waded and played for some time. Next day he began having pain of a dull aching character in the right foot and ankle. A homeopath was called in, and, with the history of the case, diagnosed it as being rheumatism. This not unnaturally, since Roser, only as far back as 1865 called the disease pseudo-rheumatism. Treatment was given on this theory for ten days, during which time the patient grew steadily worse. At the end of this time the case fell into my hands. I found the patient with a temperature of 102, severe pain of a deep, boring character, located about three inches above the left ankle, the joint itself not being directly affected. The eyes were bright, the tongue dry and brown, and the pulse quick and wirey. There was very little swelling at the time of my first visit, but the color was much darker than normal, and the superficial veins were enlarged to a marked degree. At this time there had been no chills, and there were no other parts affected.

To my mind the limitation of the pain to this one place, that is, to the diaphysis of the tibia (since osteomyelitis almost always begins in the diaphysis of the tibia, femur and humerus in the order named), the absence of marked swelling up to this time; the enlarged plainly visible veins together with the dusky color of the skin; the deep, boring, agonizing character of the pain, which was increased by pressure over the bone rather than by

movement of the limb, excluded rheumatism and indicated osteomyelitis. Taken in connection with these conditions were the age and sex of the patient. Osteomyelitis occurs in the great majority of cases between the age of ten and eighteen, and the proportion of males to females is three to one.

After a day or two the soft tissues over the seat of pain began to grow boggy. There was now little pain in the ankle joint, and the swelling was not like what one finds in inflammatory rheumatism. I now urged operative interference which was refused. After another week there was swelling of the entire limb from the ankle to the knee. Pain was agonizing and pus symptoms had become very marked. Again I urged operation, and after consultation we were allowed to make an exploratory incision only. We found the bone lying bare in a cavity full of pus. The periosteum was separated from the bone for nearly three inches. We made a counter opening on the under side, establishing free drainage of the soft parts, and had to be content with that. I irrigated with antiseptic solutions for over three weeks, during which time the pus symptoms continued, probably because drainage of the medullary canal had not been done. At the end of this time the boy was reduced to a skeleton and I urged amputation to save life. Consent was obtained, and we amputated above the knee. The boy made a speedy and complete recovery. On examination after amputation the entire tibia was found to be a rotten, spongy mass.

Now, if early diagnosis had been made in this case and there had been prompt surgical interference, no doubt the leg could have been saved, and the boy would not have been compelled to battle his way through life so badly handicapped. Could an early diagnosis have been made? I think so. Looking back at the case it does not look very much like rheumatism except in the history of its onset. The results in this disease are so disastrous that physicians should be on the alert, and not class as rheumatism or neuralgia every case of non-traumatic pain.

Infectious osteomyelitis, and it is probable that every case is infectious, is an acute suppurative inflammation of the bone, beginning in the marrow, and caused by one or several of the

pyogenic micro-organisms, generally the staphylococcus pyogenes aureus, although sometimes we find the albus or citreus present. Now and then we find the streptococcus pyogenes to be the offending germ, and Nichols says, that Frankel's pneumococcus may cause the disease, but that such cases are generally secondary to pneumonia, pleurisy or empyema.

To quote Nichols again: "Infectious osteomyelitis is not a specific disease, but is an acute inflammation of bone that may be produced by any one of a variety of pathogenic organisms, or by a mixed infection . Any pyogenic organism that can be carried in the blood stream may be deposited in the bone and produce suppuration."

When secondary to some other septic condition, or infectious disease one can easily imagine the method of infection; but in a case such as I have reported in which the patient was in apparent good health before the disease developed, the method of infection is not so clear.

However, the fact remains that the germs do gain entrance to the system in some way; and it is the fact, not the theory, that concerns the patient. Mistakes in diagnosis have been made by eminent and learned men. Keen, in the American Text Book of Surgery, says that prolonged exposure to cold may be the only exciting cause, and Senn, Nichols and many others agree with this statement; but exposure to cold is also often the starting point of rheumatism. In children who have been debilitated by some previous illness a slight injury is all that is needed.

Not all cases are as bad as the one I have reported. In many cases the process is slow, the patient's health remains fairly good, and after a varying length of time a sequestrum or an involucrum will form which may be discharged through a sinus without the surgeon's aid.

The pathology of bone necrosis and gangrene of the soft tissues is not very different. In both instances, provided the case is not a fulminating one, a line of demarcation forms, and in the case of bony tissue a sequestrum is the result. Nature is a poor surgeon always, and in most cases it is not best to

wait on her dilatory methods, for the protracted suppuration incident to dead bone may wear out the patient. In the case I have reported, if early incision had been made and the medullary canal had been opened and drained before the suppurative process had extended so far, I am sure most of the bone, and a consequent useful limb, could have been saved.

And that is the treatment. An early diagnosis having been made, before extensive necrotic changes have taken place, surgical measures must at once be instituted. Poulticing, either with heat or cold, and all other temporizing, is worse than useless. Internal medication other than supportive treatment and opiates for the relief of pain, will do no real good. Free incision and drainage, at the earliest possible moment, will not only save the patient from a protracted period of suffering and septicaemia, but will limit the local destructive process. At first free incision and drainage with the proper use of antiseptics is all that is required. But incision of the soft parts alone is not enough. The infection generally begins in the marrow, and the pus finds its way through the Haversian canals to the periosteum. The shaft of the bone must be freely opened with mallet and chisel the entire length of the infected area; but the cavity should not be curetted, as that injures the endostium and promotes bone necrosis. In every way possible the integrity of the periosteum must be preserved, as, on account of its ability to reproduce new bone, we depend upon it to reconstruct in whole or in part the bony tissue that has become necrosed. The periosteum is very resisting and will often preserve itself intact when the other soft tissue around it has become necrotic; but it has its limits of endurance, and if operation is too long delayed, it will be found lying in the bottom of the pus cavity entirely peeled off the bone and dead. Early operation, while it may not save the bone itself, will often save all or much of the periosteum.

As soon as free drainage of the bone and soft tissues has been established, the general condition of the patient will begin to improve. His temperature will come down, his pain may entirely disappear, his tongue will become moist and his appe-

tite will return. During this time the wound will continue to discharge, and nature may terminate the case by causing the dead bone to be separated and thrown off, after which the wound will slowly heal and the part be restored in whole or in part to its former usefulness.

Generally, however, a secondary operation for the removal of dead bone will be necessary. Most of these cases if left to nature will go on month after month, and year after year with a sinus leading down to the dead bone, which, if it heals at all, only heals to reopen again and again so long as the dead bone remains. During this time the patient will remain more or less an invalid from the absorption of pus or the pain in the part.

When the loss of bone has been considerable, and the periosteum has been destroyed, many devices have been employed to aid in replacing the bone that has been lost. Bone grafting, sponge grafting, and the establishing of an organizable blood clot are among the most practical; but I do not propose to discuss them in this paper, my object being to emphasize the need for early diagnosis and prompt surgery.

LAMINECTOMY.

BY DR. F. P. LENAHAN, WILKES-BARRÉ, PA.

READ APRIL 6, 1904.

I have taken "Laminectomy" for my subject for two reasons: First, because of the great interest that it has for me, and second, because it appears to be overlooked, to a great extent, in the papers read before medical societies.

As the literature upon the subject is not very extensive, I found it exceedingly difficult to obtain very satisfactory statistics. I intend to treat of it only as applied to the so-called broken back. The operation is one that has not been frequently performed, which is due, I suppose, to the rarity of occasion for it because of the limited number of instances of broken back, as compared with other injuries, the proportion being about three or four per cent. of the total number of fractures. The injury does not often occur, except in mining regions, where laborers are exposed to fall of top coal or rock.

Before taking up the operation itself, I will refer briefly to the symptoms, diagnosis and prognosis. While, as stated above, the injury occurs most frequently in mining regions, it sometimes happens in railroad accidents, by caving in of embankments, as the result of severe blows, falls, etc. A very curious instance is mentioned by Sutton, in which a fracture of the spine occurred in a foetus, during the fifth month of pregnancy, resulting from a fall of the mother. When the child was born at the eighth month, the body, from the naval up, showed an eight months' development; whereas, from the naval down, the development was that of a five months' embryo, showing that as a result of the fracture, the lower half of the foetus' body, being cut off from nervous influence, did not develop.

By broken back we mean either fracture or dislocation of the vertebrae or a combination of these conditions. It might be interesting to note that the so-called broken neck, which the hangman is so anxious to obtain, in order to cause instant death, is really not a fracture of the cervical vertebrae, as the

layman supposes, but rather a dislocation of the atlas upon the axis, the sudden pressure thus brought to bear on the medulla, causing painless and instant death. In broken back, it is estimated that twenty per cent. of the cases are fractures alone. twenty per cent. dislocations alone, and sixty per cent. a combination of dislocation and fracture; so that it is seen that considerably more than half the cases are fracture with dislocation. In a large percentage of cases, more than one vertebra are involved. I do not think the differential diagnosis between fracture and dislocation is necessary before operation, as in either case the indication is to cut down and locate and remove the pressure on the cord—that is, if pressure exists, as will always be indicated by the symptoms, these latter being the same in fractures and dislocations, where pressure exists. Therefore, in referring to broken back or broken neck, hereafter, I will mean fracture or dislocation or both.

Broken back is more frequent than broken neck. The former is also most frequently met with in the region of the junction of the dorsal and lumbar vertebrae because of the junction here of the rigid dorsal and mobile lumbar vertebrae. A simple fracture is often accompanied by injury to the cord, the latter being caused by either permanent displacement of fragments or, according to some authorities, by sudden separation of the fragments, with recoil into their former places. Chipault, however, disputes this latter statement and claims that the seeming temporary displacements are really cases in which reposition has taken place after death, as they are cases in which death occurred before nature had time to fix the fragments in their displaced position with callus. Thorburn, on the contrary, states in the "British Medical Journal" that temporary displacement is frequent and that, in the cervical region, they are twice as common as permanent displacement.

Fractures in the bodies of the vertebrae are more common than in the arches. Fractures of either the bodies or arches, without displacement of the fragments and without dislocation of the vertebrae as a whole, do not, of course, cause pressure symptoms, and are, therefore, camparatively harmless. The

same may be said of simple fracture of the spinous process. Fracture of the odontoid process is more common than one would imagine, as Dr. Stephen Smith, in 1899, reported twenty-four cases in the "British Medical Journal."

The symptoms of broken back are so characteristic that, except in very rare instances, the diagnosis is readily made. The symptoms occur in the part of the body supplied by the nerves given off the cord below the seat of fracture. The most common symptoms are paralysis and anaesthesia, with loss of reflex, loss of control of the sphincters and paralysis of the bowels, retention of urine, followed by incontinence. These symptoms are more or less complete, depending upon the amount of pressure or the extent to which the cord is lacerated or otherwise injured. Priapism may also be present. There is also tenderness over the seat of injury and there may or may not be deformity, crepitus and preternatural mobility. Girdle pains at the level of the injury, similar to those of locomotor ataxia, are common. Severe shock is almost invariably present and eventually bed sores. Soon muscular twitchings occur, accompanied with symptoms of traumatic myelitis. The symptoms, of course, will vary with the site of injury. While the diagnosis of broken back is easy, the exact location of fracture or dislocation is not always so easy, in the absence of deformity, crepitus, perternatural mobility and tenderness. However, the site may be located by careful study of the reflexes and by carefully tracing the spinal motor and sensory nerves, which supply the paralyzed and anaesthetized areas, all of which can be worked out by reference to the tables published for this purpose in any of the modern, up-to-date text books on surgery. However, in these days of the X ray, the site of injury can be easily located by a skiagraph, without reference to the above-mentioned tables. Ascending myelitis may occur in any case, causing the above symptoms to appear at a point considerably above the seat of injury.

Fracture or dislocation rarely occurs in the region of the three lower lumbar vertebrae, and, as it is below the spinal cord, it would only involve the nerves and the cauda equina. These

latter, however, usually escape injury, in which case no paralysis would occur. If these nerves should be involved, there would be more or less paralysis of the legs, according to the severity of the injury. The prognosis here is good, both as to life and function.

It is not well to make any great effort to obtain crepitus or preternatural mobility in broken back, as the damage may be increased by so doing.

If the lower cervical region is involved, there will be complete or incomplete paralysis of the upper extremeties because of lesion of that part of the cord from which arises the brachial plexus, and because of diaphragmatic respiration, dispnoea is marked, particularly in expiration and the voice weak. The temperature is often 108° to 112° F. Teale mentions a case in the "London Lancet," with a temperature of 122°, in which the patient recovered, but he does not say whether or not the paralysis disappeared. With the injury in this region, death usually occurs, and occurs early with or without operation.

In the upper cervical region, death is usually instantaneous, because of paralysis of respiration from pressure on the medulla. Sometimes, in cervical cases, the fifth nerve escapes pressure, when the paralysis of the upper extremeties is incomplete. In these cases, the elbow lies in a position of abduction and flexion and the forearms are supinated and, while the patient cannot extend the forearm, he can flex and abduct the elbow, after the attendant extends and adducts it. If the fifth nerve be involved, the paralysis of the upper extremities is complete. In dislocation of the cervical region, without fracture, the neck is held rigid with the head bent backward or forward, or, if the dislocation is unilateral, to one side. In fractures in this region, of course, the neck would be limp and preternatural mobility would exist.

The studies of Bastian, Bowlby, Thorburn and Herter would indicate that in complete transverse destructive lesions of the cord, there is complete paralysis and anaesthesia and complete and permanent abolition of knee jerk and other deep reflexes;

whereas, in the partial transverse lesion, the paralysis and anaesthesia are incomplete and the deep reflexes exaggerated or normal. They claim that in the first class of cases, operation cannot accomplish anything. They are evidently mistaken in this, however, as successful operations have been reported where the paralysis and anaesthesia were complete immediately after the injury and the knee jerk and other deep reflexes absent. Schede, in "Annals of Surgery," reports a case of this kind, in which he obtained a successful result, as do Hammond and Phelps, in the "Journal of Nervous and Mental Diseases." Prof. Forbes also successfully operated on a case, at Jefferson Hospital, in which the knee jerks had been absent eighteen months.

Now, as to operation. From my small experience in these cases, and from what I have read as to results obtained, I would say operate in all cases, no matter what part of the spine is involved, and operate as early as possible. Once the profound shock is past, do not wait. Dennis reports a number of recoveries in early operations, in which it was clearly demonstrated by the condition of affairs existing at the time of operation, such as extensive pressure, torn membranes, spicules penetrating the cord, etc., that the patient would undoubtedly have died, had operation been delayed. Of course, there are those who take the stand that the cases that recover after operation are cases that would have recovered, anyhow, if operation had not been performed. This position is undoubtedly false, because, while there are cases that have recovered the use of their limbs without operation, yet the number of these is insignificant compared with the number of cures following operation. As for myself, while I am unable to report a successful issue in any of the operations of this character performed by me, yet I intend to operate in the future on all cases that come into my hands, in which I can gain the consent of the patient. I think I would be right in taking this position, even though the operation were to cure but one case in a thousand, because, in the first place, the operation itself, under aseptic precautions, can do no harm, even though it does no good; and in

the second place, the outlook for these poor unfortunates is so horrible that any means, no matter how desperate, nor how small or infrequent the chance of success, is in my opinion justifiable. What prospect is more horrible than that of the poor creature with broken back or neck, who has nothing to look forward to but months or years of absolute helplessness, not able even to attend to the wants of nature, a nuisance and a burden to himself and those around him until death comes to his relief, and that these cases do sometimes live for years is very aptly illustrated in the case of the poor fellow who died a few weeks ago at the City Hospital, after lying sixteen years helpless in bed.

I think, also, that we should persist in operating even on the cases in which the cervical region is involved; although I know of but five cases in which death did not occur a short time after the injury. One of these was the case of a young man, son of a New York millionaire, who broke his neck while diving into the East River a few years ago. If I recall the case correctly, this young man was operated upon and so far recovered as to be able to walk around with the aid of a jury mast for two years, when death occurred. The second case you probably all remember as having been exhibited in the museums throughout the country some years ago. He was in the habit of removing the jury mast and allowing his head to fall over on either shoulder. He had not been operated on, I believe, and how long he lived or whether or not he is now living, I cannot state. The third case was reported in "Gould's Year Book," 1900, as being operated upon by Brokaw, seven months after the accident had occurred. When seen by the operator, he had irritative cord symptoms, cutaneous numbness, with attacks of shooting pain, paralysis of the dorsal cutaneous, superficial palmar and muscular branches of the ulnar nerve in the forearm and partial Erb's palsy. Patient felt much easier when recumbent with the head extended. Skiagraphs showed the vertebral distortion. At the operation it was found that the fourth cervical spinous process was fractured and irregularly united; the spines of the fifth and sixth cervical vertebrae

were widely separated; the ligamenta subflava partially separated but the ligamentum nuchae was intact. There was marked lateral rotation. The parts were brought into nearly normal position by rotating the head from side to side and carrying it down over the end of the table. A piece of stout wire was thrown around the spines of the involved vertebrae and twisted. A ring of wire was passed around the third cervical spine and silkworm gut sutures were passed from one link to the other. The wires were anchored to the tendonous aponeurosis and muscles of the back by sutures of kangaroo tendon. The wound was closed and the parts kept rigid by a helmet and cuirass of starched bandage and strips of binder's board. A cure resulted with only a vestige of paralysis in the distribution of the ulnar nerve. Of course, this last was not a real case of broken neck. The fourth case is reported by Robert Abbe, in which there was a comminuted fracture of the body of the fifth cervical vertebra, the depressed fragments being removed under cocaine, six weeks after the accident, fifteen drops of a two per cent. solution being used. Six months afterward sensation was normal all over the body and voluntary motor power was restored, except for the anterior tibial groups. The fifth case, also reported by Abbe, was a dislocation of the neck, the skiagraph showing a dislocation of the axis upon the atlas on one side. The case is very curious and exceedingly interesting because of the fact that spontaneous reduction occurred during sleep. While the author mentions deformity as having existed, he does not state whether or not there were other symptoms present. It is readily understood that the higher up in the spine the injury occurs, the smaller is the chance of recovery, with or without operation. Thorburn states that from 1814 to 1885, he finds but fifty operations recorded as having been undertaken for injuries of the cord. Chipault's figures gave a mortality of forty-eight per cent., but if the cases since 1885 be reckoned, a mortality of thirty-seven per cent. Even the earlier figures contrast favorably with cases in which no operation was undertaken, of which cases Gurlt gives a death rate of eighty per cent. based upon two

hundred and seventy cases, of which two hundred and seventeen died, and it appears that even these twenty per cent. who recovered were in such condition that life was scarcely worth living. Thorburn has collected sixty-one cases of operation of which thirty-five died, or a mortality of fifty-seven per cent. In some of those who got well the recovery was complete, while in those who still had paraplegia, the improvement in bedsores and regain of control of the sphincters made life more bearable. In the "American Journal of Medical Science," Lloyd has collected one hundred and three traumatic cases operated on with fifty-eight deaths, a mortality of fifty-seven and three one hundredths per cent. Of those treated antiseptically, fifty per cent died; of the non-antiseptic cases, sixty-three per cent. died; of the latter only one was cured (two per cent.), and seven recovered partially (sixteen per cent.); of the former, that is aseptically treated cases, four were cured (six per cent), and fifteen recovered partially (twenty-five per cent.). The above figures would certainly indicate that operation is advisable, and in my opinion should be done in all cases in spite of the claim made by some that certain cases can be picked out in which it can be decided before operation that an operation will not accomplish anything. There is no possible way of telling positively whether or not an operation will be effectual until you cut down and examine the parts.

The operation for laminectomy should be performed under the strictest aseptic and antiseptic precautions. The shock from the operation is very marked; therefore, every precaution should be taken to make it as light as possible. Dercum advises a preceding hypodermic of strychnine, atropine and caffeine, or a rectal injection of hot coffee, and that the patient be surrounded by hot bottles and as well covered as possible with blankets. There is great danger from the anaesthetic. This danger is readily appreciated when we consider that the anaesthetic must be given in the prone position, the abdominal muscles being paralyzed. Some claim that chloroform is a safer anaesthetic in these cases than is ether. It is very important to have a skilled anaesthetizer. Dennis mentions the

advantage of operating on a table, the top of which consists of steam piping for keeping the patient warm and thus rendering less the shock. The patient should be in the Sims position. I prefer the straight medium incision, which should be at least four inches long and longer if necessary. The arches of at least a half dozen vertebrae should be removed, in order that the inspection of the cord and bodies of the vertebrae may be thorough. Some operators prefer an osteoplastic resection, in which the arches, instead of being completely removed, are raised up still attached to the muscles and replaced at the end of the operation, arranging of course, so that when replaced they do not exert a pressure on the cord. This form of resection is not necessary, as in the normal spine the arches add little to the solidity of the back, although they may in Pott's disease, where the bodies are eaten away. A serious objection to the osteoplastic operation is that it so lengthens out the operation as to materially increase the shock. In order to assist in getting subsequent union by first intention, the muscles should be divided by clean cuts and not torn. Separate the muscles from the arches on one side first and then pack it tightly with gauze wrung out in hot water to check the bleeding, which will be very free—do the same then on the other side. Divide the interspinous ligaments and open the canal with trephine or powerful angular bone-forceps, being careful to avoid injuring the intervertebral nerves, the vertebral artery and the membranes of the cord; or an opening can be effected by gnawing away the spinous process and a part of an arch with a rongeur forceps. After an opening is effected, the rest of the arches may be removed by chisel or rongeur or both. Sometimes hemorrhage from the vessels within the bone is quite severe, but can usually be checked by pressure and hot water. Between the arches and membrane, a very vascular layer of fat will be found. After this fat is cut through, inspect the dura for pulsation. Absence of pulsation is due to adhesions, swelling of the cord, or other interference with continuity of subdural space, or pressure higher up, which latter must of course be removed. Blood under the dura gives it a

bluish or purplish tint, and pus, a yellow tint. Now draw the membranes and cord first to one side then the other with retractors, which can easily be done and inspect the bodies of the vertebrae. If these latter are dislocated backward so as to cause pressure, they must be chiseled off or removed. Look for and remove spicules of bone that may penetrate the membranes or cord and remove all clots and fragments of bone. If nerve roots are severed before or during operation, they should again be sutured. The cord can be more easily displaced by placing two cushions, some distance apart, under the abdomen, so that the spinal column is concave posteriorly. Opening the dura is a serious matter because of the danger of infection, with consequent meningitis, myelitis and often death, and also because of danger of permanent fistula. It is best, however, to open it to inspect the cord and then suture with continuous cat gut. After opening it, a probe should be run up and down under it and also between it and the bony canal, to make sure that no further pressure or bony spicules exist. Clots should also be removed if present. If the cord is severed, suture it. This has been done a number of times but with no success, except in a single recent instance at the Jefferson Hospital, in which the severed cord was sutured, and the patient afterwards recovered and was able to walk. If the cord is much swollen, the membranes may be left unsutured for drainage. After removing all pressure, clots and sharp angles, the wound is closed, leaving a drainage tube in the muscular portion of the wound for twenty-four or thirty-six hours. Unless for well defined reasons, the drainage tube should not be allowed to remain for more than twenty-four to forty-eight hours; otherwise infection may occur. The dressing should be changed every twelve hours while the drainage tube remains, but after that not oftener than once in two or three days. The patient should be placed on a fracture bed, if possible, so that dressing can be changed and bed pan placed in position with as little disturbance to the body as possible. Particular attention should be paid to the bladder and bowels,

as these are a source of infection. Plaster splints, I do not think, accomplish anything and are usually a nuisance.

The operation, as nearly as I can learn, has been performed in this city fifteen times; that is, ten cases at Mercy Hospital, and five at the City Hospital. At the Mercy Hospital two operations each were performed by Drs. Dougherty, Butler, Wagner, Wolfe and myself. At the City Hospital, two by Dr. Guthrie, two by Dr. Harvey, in one of which he was assisted by Dr. Biddle, and one by myself. I have performed the operation three times, and acted as first assistant at five other operations. In none of the fifteen operations was a cure affected, although in nearly all of them some improvement resulted, and in one, performed at Mercy Hospital, the patient, to quote the words of the resident physician, "died cured;" that is, motion and sensation and control of the sphincters returned but the patient died from other causes.

Of Dr. Wolfe's two cases, the first was operated upon three years ago. Operation took place forty-eight hours after injury. There was complete paralysis of all the portion of the body supplied by the nerves given off the cord below the seat of injury. Knee jerks were completely absent. Arms were partially involved in the anaesthesia and paralysis. Upon cutting down, the laminae of the sixth and seventh cervical and first dorsal vertebrae were found fractured and these were removed. The meninges were lacerated and the cord crushed. In this case, there was no improvement and death occurred one week later from exhaustion. I assisted Dr. Wolfe with his second case, which was operated on two years ago. Injury was located in the lower dorsal region. The paralysis and anaesthesia of the lower half of the body was complete. The knee jerks were abolished and control of the sphincters completely lost. Patient would not consent to operation until one week after the accident. We removed the laminae of the eleventh and twelfth dorsal vertebrae which were fractured and pressing on the cord. The meninges were intact. We opened them, however, and found the cord apparently normal. Improvement began within forty-eight hours after operation.

The patient regained control of the sphincters. Motion and sensation returned to one leg. There was some return of the knee jerk. This, however, was the extent of the improvement. The patient was able to sit up in a chair and lived for eighteen months, when death finally occurred from bedsores. Had this patient consented to an operation immediately, it is not improbable a cure might have been effected, as is proven by the marked improvement within forty-eight hours after operation.

Of Dr. Dougherty's two cases, the first resulted from a railroad accident, the patient lying helpless along the railroad track all night until discovered in the morning, when he was removed to Mercy Hospital. Two days after the patient consented to operation, which was immediately performed by Dr. Dougherty and myself. Injury was located in the lower dorsal region. There was complete paraplegia and anaesthesia, with loss of knee jerk and loss of control of sphincters. Upon cutting down we found the five lower dorsal vertebrae involved and removed the laminae of these vertebrae. We removed also spicules of bone which had penetrated both membranes and cord, the former being badly torn. After operation, there was a slight return of sensation to the legs, but the paraplegia, loss of sphincter control and loss of knee jerk were not improved. The patient died of pneumonia forty-eight hours after operation. Whether the pneumonia was the result of the all night exposure on the railroad track or was caused by the ether, it was impossible to determine.

The Kearney case most of you have heard of. This young man was caught in a machine belt at the Hazard rope works, carried up and thrown down with such force to the floor, as to break his neck. He was taken to Mercy Hospital, and shortly after was operated upon by Dr. Dougherty and myself. Upon cutting down, we found a dislocation of the atlas upon the axis and comminuted fractures of the laminae of the fourth, fifth, sixth and seventh cervical vertebrae, and also of the body of one of the vertebrae. After cutting the ligaments, we attempted to reduce the atlas-axis dislocation. Drs. Dougherty, Wagner, Roderick, Wolfe, Reichard and myself took

hold, some at the head and others at the legs, and after exhausting all our strength, succeeded in partly reducing the dislocation. We then removed the laminae of the four lower cervical vertebrae and a portion of the fractured vertebral body. We also removed some spicules that had penetrated the cord, put in drainage, closed the wound and got union by first intention. Before the operation, examination revealed complete paralysis and anaesthesia from the shoulders down; loss of patellar and other reflexes and complete paralysis of the sphincters. The fifth nerve root evidently had escaped injury because the boy could flex and abduct the elbow although he could not extend or adduct it. After operation, sensation returned in spots all over the legs and body. He regained intermittent control of the sphincters and was able to move both feet a little. There was no improvement in the arms, except that he was able to flex the fingers slightly. The patient lived four months and two days, when, a few days before death, he developed a cerebral meningitis which carried him off. The trophic centres seemed to become somewhat active after operation, as he had very little tendency to bedsores. The young man displayed wonderful grit and remained cheerful and hopeful, maintaining until the end, that he would fool us all and get well. This was certainly a most remarkable case, when you consider that the patient lived over four months with a fracture of the four lower cervical vertebrae and a dislocation of the atlas on the axis; this last being the thing that causes instant death in hanging. As stated above, however, we succeeded in partly reducing this dislocation.

Of Dr. Wagner's two cases, one was operated upon two hours after injury. This patient had fractures of the five upper dorsal vertebrae; the ribs were broken off the vertebrae; the pleurae were full of blood and the cord crushed and mangled. This case died on the operating table—probably from hemorrhage into the pleurae. In his second case, in which I assisted, the cervical vertebrae, from the third to the seventh, were involved. The cord was crushed. After operation, the patient regained control of his bladder and moved his feet.

There was also some slight return of sensation. There was no further improvement and the patient died at 11 P. M. on the day of operation, as a result of embolism.

In Dr. Butler's two cases, one was a child four and one-half years old, shot through the laminae of the third and fourth dorsal vertebrae, the ball lodging in the body of the second dorsal. The membranes were lacerated but the cord apparently was uninjured. The badly crushed laminae were removed and the meninges closed. There was no improvement in symptoms. On the seventh day, cerebro-spinal fluid began to escape from the wound and the patient died of meningitis on the ninth day. In his second case, the last dorsal and first lumbar were involved and the cord severed. We removed the laminae and sutured the cord. There was no improvement in symptoms. The patient lived ten months and died of bedsores.

At the City Hospital, Dr. Harvey operated twice. Dr. Biddle, of Fountain Springs, assisted him with his first case in 1897. The fracture was in the lower dorsal region. The laminae of two and part of the body of one vertebrae were removed. The cord and membranes were uninjured. The patient left the hospital slightly improved. He still lives, and I learned to-day, that while he cannot walk, he can stand, move his legs in every direction, sensation has returned, as has also control of the sphincters. This is the best result obtained in this city, although I understand Dr. Gibby, of Pittston, obtained an even better result, in a case upon which he operated. Dr. Harvey's second case died five days after operation, unbenefitted.

Dr. Guthrie had two cases, one involving the cervical region, which died five days after the operation; the other, with injury in the dorsal region, living nine months after operation. In neither of these cases was there any improvement in symptoms. I operated on a case while on duty at the City Hospital, last July, removing the laminae of the last dorsal and first two lumbar vertebrae. There was no improvement, except return of sensation to the thighs. The patient is still living but is in such

a bad way with bedsores that he will not last much longer. I also operated on two cases at Mercy Hospital. In the first, there was fracture of the last three dorsal vertebrae, with all the symptoms found in such an injury, including complete absence of the reflexes. After operation, the patient regained motion and sensation in all the muscles of the legs. He also partially regained control of the sphincters and showed every indication of ultimate recovery, when at the end of the sixth week he contracted an uncontrollable diarrhoea which caused his death three weeks later. The other case was one involving the last two dorsal and first two lumbar vertebrae. The cord was completely severed. I sutured the cord and removed the broken laminae but the patient died of exhaustion two months after.

Dr. Biddle, of Fountain Springs, has had probably more experience in this line of work than most other surgeons, and has obtained good results in many cases.

AN UNIQUE CASE OF APPENDICITIS. APPENDICEAL ABSCESS IN THE SCROTUM.

BY DR. E. C. WAGNER, WILKES-BARRE, PA.

READ APRIL 6, 1904.

Male, aged 21. Referred to me by Dr. E. Dougherty.

In November, 1903, patient discovered his condition, a right inguinal, indirect hernia, which was reduced at that time. Since that event until the present attack, patient has had intermittent attacks of right inguinal pain with descent of hernia. This was reduced several times.

Present attack.—On March 9th, 1904, patient complained of severe pain in the right inguinal and scrotal regions, accompanied by bilious vomiting. There appeared a slight scrotal swelling, which gradually grew larger, harder and more painful, swelling and tenderness extending up in the inguinal region to a level with the ant. sup. spine of ilium. The swelling was irreducible. On admission to the Mercy Hos-

pital, March 10, 1904, the scrotum was found reddened, enlarged to the size of a pear and of similar shape, hard, painful, but not presenting the exquisite variety of pain observed in an orchitis. The swelling extended up through the inguinal canal. No fluctuation on palpation, no translucency, no constipation, no vomiting. Temperature, 100–102 2-3°; pulse, normal, full, strong. General condition good. Twelve hours after admission the scrotal redness deepened, the swelling increased in size and became very painful.

Pain in the inguinal region lessened and inguinal tenderness markedly diminished.

Diagnosis.—Strangulated hernia. Patient was operated upon immediately.

Upon opening the sac and following it into the scrotum I opened up an abscess. Upon close examination the appendix was found and laid bare. It had become strangulated at the external inguinal ring by inflammatory bands. The colon-appendiceal junction was at the internal ring and the appendix about six inches long. The scrotum was filled with plastic-degenerated inflammatory material. Through and through drainage of scrotum, appendix tied off, wound allowed to heal by granulation. Compiete recovery.

FRACTURES OF THE PELVIS.

BY DR. RAYMOND L. WADHAMS, WILKES-BARRE, PA.

READ APRIL 20, 1904.

Fractures of the pelvis are generally due to severe forms of violence, such as falls from a considerable height, landing on the feet or buttocks, the passage of a heavy wheel over the body, the caving in of embankments and the crushing between the bumpers of railway cars.

Probably the most common cause in this region is a fall of coal or rock in the mines. For this reason we see more cases here than do the physicians of other communities. In a number of cases that I have seen, the mechanical action of the

falling mass has been almost identical. The men were struck upon their shoulders or backs while their feet were somewhat separated, the weight forced them down, causing greater separation of their legs until they were forced down flat. In these cases, in addition to fracture of the pelvis, the perineum was almost invariably torn or split apart, and some had fractures of the femur near the upper end.

The position and number of the fractures vary with the degree of violence and the portion upon which it is received.

When the violence falls upon the symphysis and is directed backward, the arch yields, and the line of fracture usually passes through the horizontal and descending branches of the pubis. When the violence is received from the side of the pelvis or the great trochanter, or is transmitted by the femur, it may cause a vertical fracture of the pelvis or a fracture of the acetabulum.

Fracture of the acetabulum can only be caused by violence transmitted through the femur. This may be only a mere fissure, or the head of the femur may be driven entirely through into the pelvic cavity.

Separation of the symphysis pubis may be caused by external violence acting directly upon the pubic arch, as though forced abduction of the thighs, or by childbirth.

Separation of the sacro-iliac synchondrosis is very rare.

Transverse fracture of the sacrum is another rare form of fracture. It is usually in the lower half of the bone, and is caused by a violent bending inward of the lower end of the sacrum.

Fracture of the coccyx is more common. It is caused by falls, kicks, or blows, and by childbirth.

In examining the patient the crests of the ilium of each side should first be examined. Then, grasping the ilium on each side, crowd them together in order to elicit crepitus. Then palpate the pubes and ischium on each side, and finally make a rectal examination, and also a vaginal examination in the case of a woman.

Fractures of the crest of the ilium are not uncommon. The

displacement is slight and is usually outward and forward when the fracture runs below the anterior superior spine. There is pain, swelling, crepitus and abnormal mobility. Separation of the symphysis pubis is easily made out. Sometimes the gap is quite wide and the abnormal mobility is very apparent.

Fracture of the pubic portion of the pelvic ring is the most common of all forms. Here the line of fracture usually passes through the horizontal ramus, just in front of the ileo-pectineal eminence, and through the descending ramus near its junction with the ischium. There may be in addition, separation of the symphysis and fractures of other portions of the pelvis.

In some cases the displacement is considerable, but usually there is very little.

In fracture of the pelvis the patient is usually unable to walk, shock is generally severe, and movement causes much pain.

Treatment.—The patient should be put to bed on his back and be kept quiet. If the fracture is compound, loose pieces of bone should be removed and the wound dressed. A wide, tight-fitting bandage should be wrapped around the pelvis to assist in immobilizing the fractured parts. If the crest of the ilium is broken do not make the bandage tight enough to push the fragments inward, as deformity may result. Some cases require immobilization of the legs, and in fractures about the acetabulum extension may be necessary. If the fragments can not be kept in place, and there is much displacement, wiring may be indicated.

The chief dangers of fractures of the pelvis are in the visceral lesions often associated with them. The kidney may be ruptured, as may also the bladder, urethra and bowel. The rupture of any of these viscera increases the primary and secondary shock.

Rupture of the urethra may be caused by the same trauma which caused the fracture, or by the broken and splintered bones. In these cases where there is over-abduction of the legs, with separation of the symphysis, the urethra may be torn apart. The symptoms usually present, are pain at the point of

rupture, and on pressure in the perineum, hemorrhage from the urethra, swelling of the perineum and inability to urinate. If a catheter can be passed and the swelling of the perineum does not increase, permanent or interrupted catheterization is indicated. If the catheter can not be passed, or there are signs of extravasation of urine, perineal section is indicated in order to drain the wound and the bladder.

Rupture of the bladder is one of the most serious complications of fracture of the pelvis. The rupture may be either extra-peritoneal or intra-peritoneal. Rupture of the bladder, when due to fracture of the pelvis, is usually extra-peritoneal and is situated on the anterior surface.

The patient is unable to pass urine although there is frequent desire to do so. A small amount of bloody urine may escape from the meatus. The pain is severe. There may be dullness in the lower part of the abdomen. The prostration is great and all the symptoms of severe shock soon make their appearance. The abdomen becomes distended and the other signs of peritonitis soon develop. Unless operative interference relieves the condition soon after the accident, the patient will die from shock, hemorrhage or peritonitis. If the patient is seen soon after the accident and has not passed any urine, and is unable to do so, he should be catheterized. The bladder will be found empty or to contain a small amount of bloody urine. There may be some doubt as to whether rupture is present or not, as often a contusion of the bladder with no rupture will render the urine bloody. If, having removed all fluid from the bladder, a measured quantity of sterile water is injected into the bladder, and all that was injected does not return, the bladder is in all probability ruptured.

An exploratory laparotomy should be done if the rupture is intra-peritoneal. The bladder should be sutured and drainage maintained through the urethra or perineal section till the wound heals.

When the rupture is extra-peritoneal suturing is often impossible. The bladder and also the area of extravasation should be drained until healing takes place.

DISCUSSION.

DR. MCKEE.—While my experience with fractures of the pelvis has been limited, I have had several interesting cases. One point during the rendition of Dr. Wadham's paper I noticed was not touched on, namely, the transportation of patients suffering with fracture of the pelvis. However, the transportation of patients suffering with fractured pelvis, is of secondary importance to the surgeon, but it is of vital importance to the sufferer, and as I have had the pleasure of instructing the Hospital Corps of the L. & W.-B. Coal Co. in first aid to the injured, I will outline the methods used under this company. The men are instructed to make a diagnosis from the following signs: Severe pain in the pelvis, with inability to stand; there are symptoms of shock, more or less, and blood may be passed with the urine, if the bladder is injured.

Treatment. (1). Send at once for medical assistance. In the meanwhile, before attempting to remove the patient, (2) apply firmly round the pelvis two triangular bandages folded broad, one on top of the other, then apply two long splints, one on each side of the body, reaching from the arm pits to a little beyond the feet, and tie these in position by means of narrow fold, triangular bandages. (3) Lift the patient on a stretcher and remove him very carefully.

Instead of the above method, an alternative method can be adopted, viz: Procure a firm board, shutter or door, long enough to reach from the patient's head to a little beyond his feet, and just as wide as the patient's body, place a folded blanket upon it and roll the blanket up at the upper end to form a pillow, then after applying triangular bandages to the pelvis, as in the first instance, carefully lift the patient on to the prepared board and tie him by three triangular bandages, one folded broad passing around the chest, another folded narrow passing around the thighs just above the knees, and another folded narrow passing around the ankles and tied in a figure 8.

A number of years ago I had a case, male, age 38 years, who was employed at the foot of No. 1 D. & H. C. Co. shaft, at Plymouth. They were lowering T iron rails by means of a chain-swing underneath the carriage; in some way one of the rails slipped from this swing and fell to the bottom of the shaft, striking Simpson on the crest of the right ilium, the impact separated his leg, thigh and part of the wall of the pelvic bones sufficient to permit his intestines to protrude completely. There was severe shock, and I could do nothing for him but

make his suffering as easy as possible. He lived three or four hours, dying a horrible death, cursing everyone in sight.

Three or four months ago I was called to see a patient who had fallen astride a rock; he had bloody urine, later passed large amounts of pure blood; there was crepitus; slight deformity of tuber ischii; ecchymosis over the whole perineum; inability to stand; severe pelvic pain and severe shock. He was treated by me, and the case recovered nicely. I cite this case on account of the remarkable effects of the medicine that I injected into his urethra to control the hemorrhage from the bladder. His pulse was 72, the shock was considerable. I prepared and injected into the urethra two ounces of a 1-2000 solution of adrenalin chloride. No sooner was the injection made than the patient grasped his head with both hands, and yelled, "O, my head! O, my head! you have killed me!" His surface was covered with great beads of perspiration; his skin was as white as the paper on which I am reading; he was as blind as a bat; his pulse went up to 200 as near as I could count, and I certainly felt very apprehensive for a moment, for his condition was serious enough. These appalling symptoms left nearly as rapidly as they came; he was apparently all right in about five minutes, there was no further hemorrhage from the urethra, or any bad symptoms whatsoever.

Some five or six years ago I was called to see a young man who had sustained a severe squeeze between a mine car and the rib, or side of a breast. He had all the symptoms of a fractured pelvis, his bladder symptoms did not develop for ten or twelve hours after his injury, when it became apparent that he could not urinate. Sounds of the smallest caliber or filiaforms could not be passed; it was ascertained (under ether), that the borders of the ischium had been crushed inward and supra pubic cystotomy was decided upon and done right away. The bladder was distended to its utmost capacity and could not have stood the pressure much longer.

The whole subject of fractured pelvis has been covered so well by Dr. Wadhams, that any further remarks by me would seem superfluous.

CASE REPORTED.

BY DR. G. R. ANDREAS, WILKES-BARRE, PA.

READ APRIL 20, 1904.

October 12, 1898, at noon, was called to attend Mrs. L. in her seventh confinement. Her previous labors were varied. Some were exceedingly difficult and tedious, while others were easy and rapid, especially the sixth was very easy, according to the woman's statement.

I found a very roomy pelvis, with an antero-posterior diameter, a little less than what is expected in an otherwise normal or justo major pelvis. The os was not fully dilated, head at brim of pelvis, pains fairly good, and general conditions favorable.

6 P. M. Os fully dilated, pains good, head in same position. The pains from now on grew more violent, and came every few minutes, but head would not engage.

12 midnight. Administered an anesthetic, and applied the forceps, but after three or four vigorous efforts found that I counl not engage the head in this manner, so concluded that version was the proper next step. I had no difficulty to get a foot down, but as I was well exhausted by this time and had already sent for Dr. Dodson, waited and left him to complete the version. He had no trouble to deliver the body, but the head stuck. We tried the Wiegand-Martin method, forceps, and all the modifications we could think of but failed. We called in Dr. Gibson, and after repeated efforts and our united strength, we finally succeeded to deliver the head. The child, of course, was dead. Its head was not so very large, but the bones were rather solid.

The third stage was normal, and at 4 A. M. we left the patient with the womb well contracted and general condition promising.

7 A. M. Was called to see her, as she was vomiting blood. Found her with an anxious expression, rapid pulse and about every twenty minutes she vomited a few ounces of bright red blood. Directed her to swallow small pieces of ice, injected ergotol, and applied cold on region of stomach.

Noon. Seemed much improved, had not vomited since 8 A. M.

5 P. M. Expression again anxious, pulse small and although she had not vomited since 8 A. M., yet the signs were of rapid exsanguination. The vaginal discharge was about normal in the morning, but grew less towards night.

8 P. M. She died.

A post mortum was refused, but the undertaker told me that by turning her upon her side and pressing upon the abdomen the blood would rush from her mouth and nose. He thought it amounted to nearly a pailful he thus forced from her.

The patient undoubtedly died from gastric hemorrhage. There was no history of ulcer or other gastric trouble.

In my text books I do not find hematemesis mentioned as a possible complication of labor or the puerperal state, so I suspect this was rather a rare case.

THE VALUE OF CREOSOTE CARBONATE IN PNEUMONIA.

BY DR. C. P. STACKHOUSE, WILKES-BARRE, PA.

READ MAY 4, 1904.

In presenting this paper, it is my desire to call attention to the value of the Carbonate of Creosote in the treatment of lobar and broncho-pneumonia, and to give in a general way the result of my experience with it.

Creosote carbonate is formed by the combination of beechwood creosote and carbonic acid. Creosotal is creosote carbonate freed from certain impurities.

Dr. I. L. Van Zandt, of Fort Worth, Texas, (1) began the use of creosote in pneumonia in January, 1894, but its carbonate was first used in France by Dr. Cassonte, physician-in-chief to Marseilles Hospitals.

Favorable reports have been made by Prof. Andrew H. Smith (2), Dr. Leonard Weber (10), and Dr. W. H. Thompson (11), of New York; Dr. J. A. Gracey (3), of Texas; Dr. Charles F. Stokes (5), of the United States Navy; Dr. Cum-

mings (9), of Texas; Dr. Frieser (6), Dr. Meitner (7), Dr. Elberson (8), of Germany, and others.

Although containing 90 per cent. of pure creosote, creosotal is not irritating to the mucous membranes and is practically non toxic. It separates in the bowel into creosote and carbonic acid and is excreted by the lungs, kidneys and skin. Any excess is excreted by the bowel without irritation.

"Its absorption in the intestines is a slow and continuous process, whilst elimination takes place with rapidity and can be demonstrated in the breath and urine one hour after its ingestion" (4).

To properly understand its action it is necessary to understand the existing pathological condition and Dr. Andrew H. Smith, of New York, has pictured it as follows (2):

"The chief menace to life is

First. Infection of the system by toxin formed in the lung.

Second. The embarrassment of the lungs from the exudation in the air-cells.

From the first, arise a host of manifestations dependent upon toxemia; from the second, we have the ever-present danger of failure of the right heart."

"The occurrence of the chill is a certain indication that a considerable amount of toxin has already been formed in the lung and has been taken into the general circulation.

As the disease progresses one after the other of the air-cells is shut off and in each one of these the germ culture must be allowed to go on. The young newly formed cocci are the most virulent, as has been proved by laboratory cultures, and it is in the half-filled cells in which the blood is still flowing that these cocci are present in large numbers and hence it is never too late to begin treatment."

"The problem before us is first of all to arrest or inhibit the growth of the pneumococcus. It should be remembered that the life of the organism is short, not exceeding ten or twelve days in artificial cultures, and that this is one of the most sensitive of all germs."

"If we can impregnate the blood sufficiently with a substance

inimical to the growth of the pneumococcus there is a chance of forestalling the local process."

"The local process is always a spreading one so that it seems perfectly feasible to prevent the spread of it to other cells than those first invaded."

"The carbonate of creosote has been found to saturate the blood readily without irritating the stomach and without giving rise to poisonous or other untoward effects."

He also calls especial attention to the double circulation in the lung which seems to him the most important of all the facts connected with the subject.

Dr. Meinter, of Germany, says (7):

"By means of the large doses of the non-poisonous remedy that could be administered, the tissue fluids of the organism were saturated with creosote. There is thus a constant creosote diffusion through the bronchial mucosa, which is in many cases the seat of the disease, and the air spaces are filled with a creosoted and disinfected air."

Dr. Leonard Weber, of New York, says (10):

"It must be conceded, I believe, that neither to the antipyritic or bactericidal qualities of creosotal is to be accorded this remarkable and beneficial influence upon pneumonia, a fact which so far as my experience goes is never accompanied by any symptoms of depression or disturbance of the gastro-intestinal tract. It is reasonable to say that its action must be *anti-dotal* to the pneumonia toxins."

"The most important effect of the creosote treatment is the surprising fall of temperature in a few hours after its administration is begun; it becomes normal in two days or sooner."

"With this the general condition improves, the pulse becomes better, the breathing quieter, the cough is lessened, the thirst ceases and the dryness of the mouth and lips disappears. Then the tongue cleans, the appetite returns, the entire course of the disease is cut short and convalescence is about abrogated. Under creosote treatment I have never seen that weakness followed by a slow convalescence." Meitner (7).

Dr. J. A. Gracey says (3):

"When given early in the attack the results are almost specific * * * and in the course of twenty-four hours the condition of our patient is so much improved that we sometimes doubt our diagnosis."

"In the later stages the results, while not so brilliant, are yet very satisfactory * * * and not only in pneumonia do we get such good results, but in acute bronchitis as well."

Dr. Cassonte says:

"In most cases a typical fall of temperature occurred in the first twenty-four hours of treatment, and if the creosotal was continued for a sufficiently long period of time the apyrexia was a permanent one."

"The temperature curve rose again, however, when the drug was discontinued before the auscultatory signs had disappeared."

"Relapses and sequelae so frequently seen under other methods were entirely absent."

"Neither Cardiac affections nor albuminuria contra indicate the employment of this drug."

Method of administration.

It can be administered in capsules, emulsions of cod-liver oil, emulsion made with the yolk of an egg, diluted with water sweetened and flavored, in hot sweetened water or milk, or by enema.

I have sometimes given it with the syrup of hypophosphites but as it does not combine with syrups the mixture is unsightly.

It should not be mixed with acids or alcoholic preparations as these develop the odor and taste of creosote. (Van Zandt).

The adult *dose* should be from two to three drachms in the twenty-four hours.

For children (Cassonte):

Under one year, 4 to 5 grains in a day.

One to four years, 15 to 45 grains in a day.

Four to six years, 45 to 60 grains in a day.

Six to ten years, 60 to 75 grains in a day.

"These doses can be increased without danger."

It is my custom to continue the remedy at the same dose for two days after the temperature reaches normal and then in gradually reduced doses for a week to insure complete cure.

I have observed stomach disturbance only when it was administered in the emulsion and changing the form of administration promptly relieved the gastric irritability.

Van Zandt mentions three irregular cases of pneumonia in which the symptoms failed to respond to the creosotal. One of these recovered. In my series the only case (save one in extremis), which failed entirely to respond to the creosotal was one in which treatment was begun on the third day and in which veratrum viride was employed at the outset. After waiting six days for the expected change, they made the change and the other physician has the credit for the patient's recovery.

In a number of my cases treatment was begun with veratrum viride or aconite, but I am convinced that in some way they interfered with the action of the creosotal.

Occasionally it was necessary to support the heart at the beginning.

In alcoholic pneumonia I have had little opportunity to test it and will venture no opinion as to its value in these cases.

Weber and W. H. Thompson, however, report better results with creosotal than with other methods of treatment.

Of my forty-five cases, twenty were of the lobar and twenty-five of the bronchial variety. An earnest endeavor has been made to eliminate bronchitis; many cases where pneumonia symptoms were decided, but the physical signs were not positive are not included.

Of the broncho-pneumonias four followed grip and one measles; one lobar-pneumonia followed measles.

There were two fatal cases.

One child of fifteen months, eight weeks after a long and severe attack of gastro-enteritis, which left the heart very weak, developed a severe cold which, when I saw him thirty-six hours later, proved to be a well-marked case of broncho-pneumonia, with temperature 104 degrees, pulse 200, respirations 80.

Creosotal in four drop doses every three hours was given:

the temperature became normal within forty-eight hours, but the heart failed to respond to strychnine, brandy, and at last, digitalis, and he died on the fourth day of treatment of heart failure.

The other, an old man at sixty-six, a faith curist, was first seen one week after the initial chill, but was beyond the reach of any remedy and died within a few hours.

Diabetes existed in one case of broncho-pneumonia. A woman, aged seventy, developed pneumonia following grip. In this case reaction was had in five days, and notwithstanding the eleven per cent. of sugar (Fehlings) she made a good recovery.

In my cases the response to creosotal was more prompt in the bronchial than the lobar form.

The temperature drop began after two or three doses had been administered, and in mild cases was normal in twelve to twenty-four hours. In the severer cases there was a drop of from one to three degrees in twenty-four hours, and a gradual return to normal by lysis in two or three days thereafter; any fever after the fifth day was unusual.

There was in almost all cases an improvement in the pulse corresponding with the improvement in the temperature, and it was rarely necessary to use cardiac stimulants.

Other disturbing symptoms; pain, restlessness, insomnia and cough were promptly relieved, and expectoration was greatly lessened. Complications were unusual and if present were mild.

Conclusions:

1. Creosotal is of decided value in both the bronchial and lobar forms of pneumonia.
2. Response is more prompt in the bronchial variety.
3. Children respond more promptly than adults.
4. Mild cases seen early are practically well in twenty-four hours. In severer cases there is usually a response within twenty-four hours and normal conditions are reached in from two to five days by lysis.
5. Complications are rare and if present are mild.

6. Convalescence is shortened; the return to health being remarkably rapid.

No harmful results were observed.

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3. Dr. J. A. Gracey, Wax-a-hachie, Texas. Charlotte Med. Jour., Dec., 1899.

3. Drs. Cassonte and Coriger, France. Brochure—The treatment of acute broncho-pulmonary affections by creosotal. Montpelier, 1899.

5. Dr. Charles F. Stokes, U. S. N. Brooklyn Med. Jour., Aug., 1900.

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7. Dr. Wilhelm Meitner, Germany. Allgemeine Medicinische Central-Zeitung, Jan. 22 and 25, 1902.

8. Dr. M. Elberson. Auztliche Central-Zeitung, July 7, 1900.

9. Dr. H. W. Cummings, Hearne, Texas. Texas Med. Jour., Dec., 1901.

10. Dr. Leonard Weber, New York. Medical Record, Nov. 2, 1901.

11. Dr. W. H. Thompson, New York. Medical Record, Feb. 1, 1902.

DISCUSSION.

Dr. Geist.—In looking over the reports of this society from 1895 to the end of 1903, one finds only a single paper read on the use of a drug, and this paper to-night, therefore, enthusiastically advocating one of the newer preparations is an agreeable change.

Of course, of the majority of these newer preparations but few will survive the test of time, and whether carbonate of creosote will be one of the fittest is yet to be determined. Since the investigations of Sommerbrodt, Rosenthal and Bouchard, in 1889, creosote has been the principal drug used in the treat-

ment of phthisis, but the distressing, nauseating eructations made the dosage small for most patients, although Sommerbrodt's dictum was "The more creosote, the better the result."

How the good attained is brought about, we do not know. Very probably, its germicidal action preventing gastric and intestinal fermentation improves digestion.

The advantages of creosotal over creosote is in the larger doses possible. Although it contains 92 per cent. pure creosote, it may be given without toxic effect.

I understand I am to take the opposing side of this subject, but I can do that only in doubting that it is a specific for pneumonia. I believe it is a valuable drug in pneumonia, bronchitis and tuberculosis as well as in typhoid fever.

About ten years ago I read a paper before this society on pneumonia, in which I confessed our inability to do very much in this disease with drugs, and entertained the idea that we were then about to resurrect the lancet for certain selected cases. One of the members in his discussion said: "He would rather trust himself to the care of a good nurse alone, than to a drugging or lancing doctor," and my selected case for phlebotomy has not yet appeared.

I have seen good results from creosotal and shall, until I find something better, continue it in the armamenterium of an expectant and symptomatic plan of treatment for pneumonia.

Dr. Loomis at one time in a lecture alluded to a research in regard to the results of various methods of treatment used during seventy-five years in the Massachusetts General Hospital. In the beginning of this period, bleeding was practiced, then antimony and calomel had been used, the let-alone treatment had had its day, the stimulating plan had been tried, and at the time of the investigation, the antipyretic treatment was in use. In this hospital great care is taken in diagnosis and in the keeping of accurate records so that the conclusions must have some value. The cases were examined by decades and carefully tabulated. A line was drawn to represent the mortality during this long period, under such widely differing methods, and the line was nearly straight.

Dr. W. Gilman Thompson in an article on "The Treatment of Lobar Pneumonia," under alleged specifics, says: "My personal experience with the creosote treatment at the Presbyterian Hospital in New York City, as well as in the severe alcoholic type of pneumonia, which prevails in Bellevue Hospital, has not been convincing and I have very little faith in its efficacy."

CASE REPORTED.

BY DR. W. G. WEAVER, WILKES-BARRE, PA.

READ MAY 4, 1904.

Gall-stones removed from common duct. Mr. M., age 48.

The specimen I exhibit to-night is a large gall-stone taken from the commonn duct. Five years ago the patient was admitted to the Wilkes-Barre City Hospital as a medical case. At that time he was not thought to be a subject for operation. After his discharge from the institution an exploratory operation was performed by two Wilkes-Barre physicians, but, according to the concurrent testimony of those present, including the etherizer, no calculi were found.

The scar indicates a very extensive incision (patient exhibited). You notice the relatively small incision made in the second operation. This operation was performed by me on January 7th, 1904. I was ably assisted by Dr. Fell, to whom I owe much for his experience and advice. The operation was very difficult on account of the extensive adhesions from the first operation. No stones were found in the gall-bladder, but after extensively breaking up adhesions, the large stone exhibited was found in and removed from the common duct. The exquisite polish of the lower end of the stone was produced by its contact with another stone further down, near the entrance of the duct to the duodenum. This second stone was removed with considerable difficulty.

The patient exhibited evidence of such cachexia as to warrant a belief that malignant disease existed. He had numerous attacks of hepatic colic, but during last summer had improved so much as to be able to work most of the time in the mines. As cold weather approached, however, the attacks of colic were frequent and severe, and the resulting jaundice was nearly continuous, so that it was difficult to find a favorable opportunity for operation.

The gall duct was closed with cat-gut sutures, but as a further precaution, gauze drainage was also used. Very little leaking occurred and the wound was completely closed in three weeks. The recovery was without incident. The patient has gained about twenty pounds in weight, and his color, as you observe, is good.

I exhibit the patient and the removed calculus on account of the history of the former, and the size of the latter.

A SYMPOSIUM ON HERNIA.

READ MAY 17, 1904.

AETIOLOGY AND VARIETIES.

BY DR. S. M. WOLFE, WILKES-BARRE, PA.

The subject before us this evening is one of the most important ones that the physician has to deal with, and one that we cannot be too well informed upon. In many cases of hernia, an exact knowledge of the condition and prompt action on the part of the medical attendant will save a human life, and a lack of the same will be very embarrassing to the physician and very disastrious to the patient.

What is hernia? I find the simpliest and best definition in the American Medical Dictionary, by Dorland, who describes it as being a protrusion of a loop or knuckle of an organ or tissue, through an abnormal opening. In speaking of hernia, however, we usually refer to some type of the abdominal variety. In the aetiology of hernia, we have the following points to consider.

Heredity: Macready says that in twenty-five per cent. there is a hereditary history; Kingdon places the percentage at thirty-four. This is more particularly true of congenital hernia.

Sex is another important factor, inguinal hernia being six times as frequent in the male as the female.

Hernia may occur at any age; in a large percentage of cases, it develops during infancy, and the cases that develop at this time are twice as frequent in boys as girls. The cause at this time is usually some congenital defect. After infancy, the greatest number of herniae occur between the ages of fifteen and fifty years. This is due to the fact that the average person is more active and does harder work at that period of life.

Occupation is an important factor. Those people whose work requires severe muscular strain, are particularly liable to develop hernia.

Operation, or traumatism of the abdominal wall, followed by scar tissue, may be a predisposing cause.

Child-birth, especially in fat women with flabby abdominal walls, may cause herniae, especially of the umbilical variety.

A large proportion of all hernia occurring in adult life may be traced to a sudden and severe strain. It does not necessarily follow that a hernia must appear immediately after such a strain. It may be days, weeks, or even months, before the patient detects a slight fullness over the affected area, which gradually increases until a more or less fully developed hernia appears. Other causes of hernia, given by various authors, are elongation of the mesentery, contusion, obesity, ascites, muscular atrophy, rapid loss of flesh, whooping-cough, stricture, constipation, tight-lacing, playing on wind instruments, jumping, running, vomiting, etc. Whatever may be the exciting cause of hernia, in the great majority of cases there is some physical imperfection of the structures about the hernial orifice. For this or some other reason, there is a tendency for patients suffering from a single hernia, especially of the inguinal type, to develop the same condition on the opposite side.

Various writers estimate that this happens in from twenty to forty per cent. of such cases.

The clinical varieties of abdominal hernia are the reducible, the irreducible, the obstructed, the inflammed and the strangulated.

The anatomical varieties consist of the inguinal, which may be either of the oblique or indirect variety, or the direct. These are distinguished from each other by their course through the abdominal wall, and their relations to the epigastric artery.

In oblique hernia, the neck of the sac is external to the epigastric artery and crosses it at right angles.

In direct hernia, the opening is a new one, and the hernia protrudes below the epigastric vessels and to their inner side.

In oblique hernia, in the male, the sac is always directly in front of the spermatic cord. I speak of this, because twice inside of the last few years, I have seen an operator look inside of the sac for the cord. The spermatic cord was never found inside a hernal sac. We can readily understand this, when

we remember that the testis in the process of formation, is never intraperitonal.

Oblique inguinal hernia in women rarely descends into the labia.

Next in frequency and importance is the femoral variety, which is a protrusion through the crural canal. This sort of hernia is always acquired. It rarely happens before adult life, although a case of double femoral hernia in a child of two years is reported; umbilical hernia may be either congenital or acquired, the great majority of these cases occurring in infants.

Interstitial hernia is another variety, where the sac may lie between the transversalis fascia and the parietal peritoneum, or beneath the aponeurosis of the external oblique muscle, or between the external oblique muscle and the skin. This last variety is the most common of interstitial hernia. I had a case of this variety a few months ago—an enormous mass appeared after a severe vomiting attack; it extended from Poupart's ligament about three inches upward, and its lateral measurement was six inches or more. In this case there was an undescended testicle and I find that the condition is usually present in these cases.

Ventral hernia may occur at any point in the abdominal wall, other than the locations already described. It is usually due to some congenital defect, operation, incision, injury, ascites, or the like. Other varieties of hernia, less frequently met with, are the obturator, ischiatic, diaphragmatic, pudendal, perineal, rectal, retro-peritoneal, foraminal, mesenteric, lumbar, vesical, sciatic hernia and hernia into the foramen of Winslow. It is said that every organ of the abdominal cavity, excepting the pancreas, has been found in hernial sacs.

There are other varieties of hernia that might be mentioned, but as the gentlemen who are to follow me are obliged to treat all the varieties described, I will, out of consideration for them and the society, bring my part of this program to a close.

I thank you for your attention.

INFANTILE HERNIA.

BY DR. A. C. FELL, WILKES-BARRE, PA.

These may be either congenital or acquired. The most common varieties are the umbilical and inguinal, which are caused by a delayed or incomplete development of the parts, causing a weakness, or in the inguinal congenital, a want of closing the tunica vaginalis after descent of the testicle, which usually takes place in the male child before birth. The inguinal hernia is more common in the male than the female, in consequence of the anatomical construction of the parts. The testicle before birth in the foetis, is situated in the lumbar region, back of the peritoneum, and in its descent carries a portion of the peritoneum into the scrotum, forming the vaginal tunic which entirely surrounds the testicle. If there is a proper closure of this prolongation the tunica vaginalis is cut off from its extension into the abdomen, but if the opening is not obliterated we then have the proper condition for the congenital hernia. It must be borne in mind a congenital hernia is not an acquired sac, but it is a sac which should have been obliterated. This sac may be distended with intestine, omentum, appendix or any abdominal viscera in the neighborhood.

Femoral hernia is never congenital and is very rare in infants; in female children the ovary has been found along the course of the sac in the canal.

The most common hernia of infant life is umbilical. The umbilical aperture is always open at birth, but usually closes on ligating the cord, but at times this fails to close and the parts are ready to take advantage of the weakness. Almost fifty per cent. of ruptures occur before thirty-five years and very few occur between infancy and about eighteen to twenty years.

In acquired hernia, given a naturally weakened part, long and severe crying or straining of the abdominal walls may cause the parts to break, forming the hernia. One of the most persistent symptoms of hernia in an infant is the colicy cry, and we should always examine colicy children to see

if a hernia does not exist before giving drugs. The presence of hernia is ascertained by the usual symptoms.

Treatment.—Infantile hernia, congenital, tends to cure itself, especially if some assistance is rendered in keeping it reduced. The first thing to do after ascertaining that a hernia exists is to reduce it and keep it so. And if the parent or nurse will give it the requisite attention during the early age it will, as a rule, be cured. What is required after reduction is some mechanical appliance to keep it reduced. The same principle applying in a child as in an adult; if the hernia comes down in spite of the appliance remove the dressing, again reduce the hernia and again apply the apparatus.

What should we use? In umbilical hernia, the best and simpliest thing is the ordinary wooden button, which may be placed over the umbilical ring and held securely by adhesive strips. All other appliances fail for the reason that it is impossible to keep them in their position, and this renders them useless. The button must be removed every few days to examine the skin and to change the location of the adhesive strips, avoiding irritation of the tender skin of the infant.

"The zinc oxide plaster is least likely to cause irritation."

In the inguinal variety the adjusting of a well fitting hard rubber truss is the best, but care must be taken that the size be changed to accord with the increasing age of the child. This style of truss is preferred, because it is easily cleaned and non-absorbent, not offensive and easily adjusted, with constant pressure on the parts. Care must be taken that the pad is not too small, but of sufficient size not to cause an enlargement of the ring, and firm enough not to allow the viscera to protrude. A very useful and inexpensive truss may be formed by using a skein of wool yarn—passing it around the body and passing one end through the looped other end, and then extending the end passing through the loop down under the perineum and bringing it up and attaching it to the encircling skein on the back. Care must be taken that the loop is directly over the internal ring. The skein must be repeatedly changed from being soiled. This can be readily washed. If the skein

of yarn is either too long or too short, it may be readily rewound, making it the proper length.

In femoral hernia use a hard rubber truss.

These measures failing either through neglect of parent or nurse, or through the improper fitting of the truss, the advisability of an operation presents itself. The operation upon an infant is attended with more danger than in an adult. An infant cannot be made to understand the consequence of interfering with the dressing and cleanliness, and this must be taken into consideration in operating upon the child. Therefore, the dressing must be such that the child cannot reach the wound, and such that it cannot come off but will remain fixed. Plaster paris dressing over the regular dressing affords the best means in accomplishing it. This must also be protected so that the dressing does not become soiled with the excretions from the bowel and bladder. In operating on congenital inguinal hernia, and in fact all inguinal hernia in children, look for the vas-deferens, remember that it is small and not so prominent as in an adult, and that it lies close to the sac.

Now, what may be the reasons for operation on an infant for hernia?

1. Certain cases of adherent omentum.
2. Cases complicated by reducible hydrocele.
3. Cases that are not successfully cured after faithfully trying mechanical treatment, or through neglect.
4. Cases that are not reducible or strangulated.
5. Umbilical hernia should rarely be operated upon.

MECHANICAL TREATMENT OF HERNIA.

BY DR. C. R. GROSSER, WILKES-BARRE, PA.

By mechanical treatment of hernia is meant the attempt to control the rupture by means of some form of truss or bandage. A truss consists essentially of a pad and spring. The pad may be made of hard wood, celluloid, hard rubber or other material.

Two of the best trusses on the market are the Hood, or frame truss, and the Crossbody.

A good truss should so fit the pelvis as to exert an even pressure on all parts and it should retain its proper place in every position of the body. The application or proper fitting of a truss requires considerable experience and mechanical knowledge. The matter should not be left entirely in the hands of dealers in trusses as they put well fitting trusses on buboes varicocele and hydrocele of the cord sometimes. In large hernia and in hernia difficult to control, the water pad will often prove effective where hard pads have failed; usually, however, too large pads are used. The pad should be no larger than sufficient to completely control the hernia.

A pad one-half inch in diameter is large enough for the majority of cases. Before applying a truss the hernia should be completely reduced while the patient is in the recumbent posture. In adults, the truss should usually be left off at night and applied before rising in the morning. In infants and children the truss should be worn constantly, day and night, for the reason that in this class of cases there is ground to hope for a permanent cure, hence the necessity of avoiding any chance of reopening a partially closed sac and canal. In inguinal hernia the pad should rest over the internal ring as nearly as possible and never upon the pubic bone. The steel band should encircle the pelvis on a level with the upper border of the sacrum behind and just below the crest of the ilium, on the sides. In many cases, particularly in those persons with fat and pendulous abdomens, it is difficult to keep a hernia reduced except by using a spring of such force as to produce great discomfort, besides incurring a risk of developing a rupture on the other side. Under such conditions it would be better to apply a double pad truss, thus affording support to both sides of the abdomen. The double pad is of course necessary in cases of double hernia. If the pad of the truss produces chafing, as it is apt to do in warm weather, the surface should be washed with alum water or diluted alcohol.

As a test for the efficiency of a truss it is advised that the

patient be directed to cough, while sitting on the edge of a chair leaning forward, and with legs extended and widely seperated. If the hernia does not slip down behind the pad under these circumstances, the truss many be considered satisfactory.

Mechanical treatment of umbilical hernia. Nearly all forms of belts and pads are of little value in young children, as it is almost impossible to keep them in place. The single narrow strip of adhesive plaster which tends to draw the skin together for small hernial openings, the two-inch wide strip of adhesive plaster with a small pad or wooden button covered with plaster or linen, are the most useful. In umbilical hernia of adults, the best result we can hope for by means of mechanical support is to control the hernia so that it does not increase in size nor become adherent. These herniæ when left to themselves usually become adherent and irreducible, and attain great size. When this condition is reached it is almost impossible to give more than partial relief by mechanical means.

For femoral hernia there is a possibility of a cure, but it occurs so very rarely that it may fairly be disregarded.

All that can be reasonably expected of a truss is to control the rupture enough to prevent it becoming adherent and irreducible.

Results of mechanical treatment. The great majority of all cases are in infants under the age of one year. The statement that all children are cured of hernia by mechanical means is not supported by facts. Of 15,000 adult cases observed at the Hospital for Ruptured and Crippled, 700 developed the hernia during infancy or childhood, this may seem to be a small proportion, yet we must take into consideration the large number of children (ruptured) that die from various causes before attaining adult life. More men are cured than women. More girls than boys. A cure by this means does not usually occur after the age of twenty or thirty.

THE RADICAL CURE OF HERNIA.

BY DR. W. S. STEWART, WILKES-BARRE, PA.

In taking up the subject of Radical Cure of Hernia, as assigned to me, I propose only to discuss the inguinal variety, for it would require too much of our time to discuss the operations for all the different varieties of hernia. What are the indications and counter-indications for the radical cure of hernia as given by Coley.

They are in children:

First. Cases of adherent omentum.

Second. Cases complicated with reducible hydrocele.

Three. Cases irreducible and strangulated.

Four. Cases unable to obtain the care and attention requisite for successful, mechanical treatment.

Fifth. Cases over four years of age, when mechanical treatment has been faithfully tried for a number of years without benefit.

In adults, the younger the patient, the better the chances of radical cure. Operation is indicated in all young adults, in as much as there is little prospect of cure by a truss after the age of maturity. The operation in skilled hands is attended by almost no risk and the chances of a cure without the further need of truss are excellent. All cases of irreducible omentum in patients that are fit subjects for an abdominal operation. The contra-indications are those cases with very large irreducible hernia in stout persons, these as a rule, should not be operated upon. The risks are larger and there is little prospect of a permanent cure. Now, we naturally ask ourselves whose method of operation will give us the best results?

That question must be answered by the operator himself, and he naturally will select the one he is most familiar with, and the one that gives him the best results. The four methods of operation that are most prominent and in the order in which they are most popular, is Bassini's, which was given to the profession in 1888, and first done by Bassini in 1884.

Halstead's, which is a modification of Bassini's in 1890.

Kocher's in 1892, and Macewens in 1886.

Thus you see how recent these operations for radical cure of hernia are. Only in 1888 was Bassini's operation given to the profession, and to-day, as one man has said, ninety-five per cent. of all operations for hernia are done by the Bassini method, because it combines simplicity with the best results in the hands of the largest number of operators. For this reason I will give you a full description of the operation as given by Blake in the Reference Hand-book, which I think is the most complete discription of the Bassini operation I have seen any where.

"The incision is made parallel with Poupart's ligament, and 2 cm. above it, from a point lateral to the internal ring to a point corresponding to the centre of the external ring. The length of the incission is 7 to 9 cm. in adults, and shorter in children. The incision is carried directly to the aponeurosis of the external oblique, and if properly planned, should strike it in the line of divergence of the pillars of the external ring. The superficial structures should not be stripped from the aponeurosis, since its vitality is thereby injured. The aponeurosis is then slit in the direction of its fibers for a distance of 5 to 6 cm. from the external ring, care being taken not to wound the underlying structures. The upper lip of the aponeurosis is then stripped from the surface of the internal oblique, and the sheath of the rectus for a distance upward of about 3 cm. This separation is important, as it facilitates the bringing down of the fibers of the internal oblique in the final steps of the operation. The tissues covering the cord and sac are similarly stripped from the lower lip of the aponeurosis until the deep surface of Poupart's ligament is well exposed as far as its insertion in the pubic spine. This clearing of the deep surface of the external oblique is best done by blunt dissection, the instrument being swept toward the middle line in the direction of the aponeurotic fibers. The sac and cord enclosed in their coverings now lie freely exposed, and the second step of the operation, the isolation of the sac, is commenced.

"A longitudinal incision is made through the cremasteric and

transversalis fascia, exposing the sac at its uppermost part. The assistant now catches the sac with two toothed forceps, one at each extremity of the incision, and lifts it upward, while the operator, seizing the margin of the fascia, nearest to him, i. e. on the outer aspect of the sac, draws it away from the sac. The vessels of the cord now appear and must be freed from the sac by a few light touches of the knife. Just beneath the vessel on the outer side of the sac, the vas-deferens, is recognized, and is to be freed in a similar manner. The operator in grasping these structures, should use smooth forceps and make very light pressure. As the dissection is carried around the sac, the assistant shifts his hold, so that at all times, the sac is kept tense. If any vessel is divided in the dissection, it should be immediately caught and tied, so that the field may not be obscured. The cord now being isolated from the neck of the sac, the finger is inserted between it and the sac from without inward and curved about the latter; in this way, the remaining attachments of the fascia on the inner aspect of the sac are easily stripped off over the point of the finger and the neck is completely circumscribed. The direction of the encircling finger may now be reversed and the stripping of the sac can be readily accomplished by pushing the cord away from it with gauze, this being aided by a few touches of the knife. If this procedure is carried out with extreme gentleness, subsequent swelling of the cord rarely ensues. The fundus of the sac, having been freed, it is lifted up, and the internal oblique, having been retracted, to expose the internal ring, the freeing of the sac is carried upward beyond its neck to the point where it flares out into the parietal peritoneum. On the inner aspect of the neck considerable sub-peritoneal fat will be found, and in large indirect as well as in direct hernia, this may contain the bladder. In congenital hernia the sac is cut in two, the lower portion being of sufficient size to cover the testicle over to which it is sutured.

"The third step of the operation, comprises opening of the sac, reduction of its contents and ligation of the neck. Adherent masses of omentum are treated in the usual manner by chain ligation. Ligation of the sac is done by drawing it down as far

as possible, its mouth being kept open, and then transfixing its neck as high as possible with a needle carrying heavy cat-gut. The ligature is tied around each half of the neck separately and then around the entire neck and the sac is cut off. If the neck is too large for ligation it must be sutured.

"The fourth step is the most important, and here lies the peculiarity of the Bassini operation, namely, the transplantation of the cord and the suture of the internal oblique to Poupart's ligament. The cord is first freed from its bed, and retracted to the outer part of the incision, against the point of origin of the internal oblique from Poupart's ligament. The first stitch is taken on the inner side of the cord, the needle passing through the whole thickness of the internal oblique one and five-tenths to two cm. from its margin and then picking up the deep shelving portion of Poupart's ligament. This suture should just touch the cord when it is held at right angles to the wound. Three or four similar sutures are then taken until the spine of the pubis is reached. The last suture takes in the conjoined tendon and it is often better to include also in it the margin of the rectus, especially, when the insertion of the internal oblique does not extend down to the pubic spine.

"The next step is the suturing of the external oblique, which is done so as to include the cord between it and the internal oblique; a continuous suture is sufficient. The cutaneous incision is then closed with or without drainage, according to the operator's technique."

In the female, the operation is the same as the male except you have the round ligament instead of the cord, and it is best not to transplant the round ligament as you do the cord, although many operators do.

The best suture material in these cases is some absorbable material like kangaroo tendons or formalin cat-gut. I, myself, like the cat-gut, if it is properly prepared. I have used the non-absorbable suture material and in every case it has given me trouble, necessitating its removal.

There is no opertion in surgery more interesting if well done, nor none that gives us the results we get in Bassini's operation for radical cure of hernia.

Whether or not these operations are permanent cannot as yet be stated positively; for a permanent cure, strictly speaking, would mean freedom from relapse until the death of the patient, although there can be no definite time limit for a relapse, yet from a careful study of the cases we can arrive at certain fairly definite conclusions. Bull and Coley, in the Annals of Surgery, for 1898, say there were 360 cases of relapsed hernia following various methods observed at the Hospital for Ruptured and Crippled. An analysis of these cases throws much valuable light upon the question as to when relapse is most likely to occur. In 80 per cent. relapse occurred during the first year after the operation; 64.5 per cent. during the first six months after the operation; 11.9 per cent. occurred after a period of two years. Five occurred ten to twenty-two years after operation.

From these facts we would be safe in saying if the rupture is sound at the end of one year, there is a strong probability of a permanent cure, and if it remains sound for two years there is very little chance of relapse.

Coley says 95 per cent. is a conservative estimate of cures following Bassini's operation, if the operation has been properly performed. And there is no field in surgery in which there is greater need for the exercise of good judgment than in that of operation for the radical cure for hernia.

The practice of operating upon all cases of hernia, irrespective of the age of the patient and the size of the hernia, cannot be too strongly condemned. Bull and Coley report 618 cases operated upon by the Bassini method, with twelve relapses. Of these cases 371 were children under fourteen years of age, with three relapses, or three-fourths of one per cent.; 247 adults, over fourteen years, with nine relapses, or 3.7 per cent. In 60 cases in which the cord was not transplanted, but in which the other steps of the technique were the same as in Bassini's method, there were four relapses. Coley, in the Annals of Surgery, July, 1901, reports 500 cases treated with six relapses. Galeizzi has collected 1,334 cases operated upon by surgeons out of Italy with only 2.16 per cent. relapses.

The chief accidents happening from this operation, are injur-

ies to the vas-deferens, hemorrhage from omental stumps, pneumonia from anesthesia and sepsis. The occurrence of the latter largely increases the percentage of relapses. The mortality is very slight, Bull and Coley have found it to be only 0.9 per cent. in 10,000 operations performed between 1886 and 1897. In 2,000 cases the mortality was less than 0.2 per cent. and no operations for strangulated hernia are included in these lists. In my own work I have always done the Bassini operation, and have never had but one relapse, when I have been able to follow my cases, and that was in a man past fifty years of age; the relapse coming on six months after the operation. A second operation was done and a year has now elapsed without a recurrence; although, as previously stated, we cannot consider cure of hernia radical until a period of two years has elapsed since operation, and even after three or four years, there may be recurrence.

In conclusion, I would say, children under four years of age and adults over fifty years of age, as a rule, should not be operated upon, for the reason that hernia is usually cured in the very young by the wearing of a suitable truss, and in the aged the danger of operation is too great.

DISCUSSION.

DR. FULTON, Scranton.—I came here to-night as a listener, a very good and interested listener, and was pleased with the papers I have heard.

There is one thing I want to speak of, and that is the use of the skein of yarn, in the treatment of hernia in children. I have used this very satisfactorily, and it can be adjusted easily; after a little practice, any mother or nurse can hook this on, and it can be kept clean. I invariably use this in cases of children.

In the treatment of hernia, when we look over the field, it seems that in this department of surgery, almost as great progress has been made as in any other department. In 1886, when I graduated, no operations were being done for hernia. When we consider the progress of the disease, the number of people who have hernia, the results that can be obtained, and the safety of the operation, are marvelous. The Bassini opera-

tion seems to be the ideal one. I have tried other methods, but have come back to the Bassini, and practiced that entirely. The one difficulty I find in this operation is sometimes in separating the cord on the sac, sometimes considerable time is necessary for this. The rest of the operation is easy.

In the use of suture material, each man has his own choice, and is very likely to stick to what gives him the best results. For myself, I use almost entirely silk. There are two reasons why I use silk. I know it can be made sterile—boiled before the operation. You cannot be sure of catgut, it seems to me, as it is difficult to prepare it so that it is always reliable. I use medium size silk, and never have any trouble with it. I do not recall a case where I have had suppuration, or where I have had any trouble from this material. The other reason that I use silk for sutures, is that it is not absorbable, and it is a suture that will last, for we need something that will be a support for some time; sutures aid in holding the parts together.

I have operated on a child as young as ten weeks, and on men as old as sixty years, with good results, but as a rule I think this is not wise.

DR. WOLFE.—In the matter of suture material, my experience is not very extensive. I have used silk in three or four cases. Perhaps the silk was improperly prepared, but my experience with it has not been very favorable.

DR. FELL.—I have had, this last month, two very interesting cases of hernia; one case where a man was sent to me for obstruction of the bowels. The bowels were obstructed for about three days. I determined to operate, and found the obstruction was due to hernia, reduced in mass. The sac was different from any others I have seen under like circumstances. If you could form a neck of the sac, this would be about the condition held by the intestines. First, I cut the sac from the abdominal side, and released it, then replaced the intestines, and the patient made a good recovery. There was a good deal of inflammation in this case, and adhesions were different from what we ordinarily find.

The other was a woman who was sent to the hospital about three or four days after the hernia had appeared. Her physician advised her to be operated upon; he had used everything that he though advisable, but every method he used failed, and in operation he had the opposition of friends from outside who had seen the patient and advised her not to be operated upon. She was finally taken to the hospital one night, and the next morning we operated upon her. The sac and intestines were in

an awful condition, portions of it were entirely rotten, but I think she has a fair chance of getting well.

I have had three or four cases of obstruction of the bowels due to hernia, that reduced themselves in mass. I think it is wrong today to allow any person to die of obstruction of the bowels, without opening the abdomen and ascertaining the cause of the obstruction.

DR. STEWART.—I think it is a mistake, as a rule, to operate on children much under four years. Of course I am not speaking of strangulated hernia—I operated on a child two or three weeks old for strangulated hernia. The majority of children are cured by wearing a truss, if the truss is kept on carefully. The same way with people over fifty years old; unless the form is strangulated hernia, they can be made comfortable.

Now about suture material. I think catgut can be made as sterile as silk, if properly prepared.

ARTHRITIS DEFORMANS.

BY DR. S. P. MENGEL, PARSONS, PA.

READ JUNE 15, 1904.

Arthritis deformans, rheumatoid arthritis, or as the older writers termed it, rheumatic gout, is a disease, the essential nature of which is still obscure. Authorities differ widely in their views regarding the etiology of this disease.

In presenting this paper it is not our object to add any new view or champion any new theory concerning this malady, but merely an attempt to give you a review of the recent literature on this subject, more especially the etiology, diagnosis and treatment, and endeavor to differentiate it from the numerous allied rheumatic conditions.

The theories advanced in explanation of arthritis deformans are, first, that it is a form of chronic rheumatism. Second, that it is a mixture of chronic rheumatism and gout. Third, that it is caused by a specific germ, and fourth, that it is of nervous origin.

As regards the first and second theories there are but few authorities to-day who believe there is any relation between

this disease and rheumatism or gout. German authors still maintain that there are some few cases dependent on a true rheumatic infection and result by a direct continuation of an acute rheumatic disease. Braumler names such cases chronic rheumatism of the joints, but admits them to be extremely rare. The fact remains that most writers admit they never observed any case of arthritis-deformans in which the affection was proven to result from an attack of acute articular rheumatism.

Dr. Wm. Ewart, in a paper on the "Relation of Gout to Rheumatoid Arthritis," declares them to be distinct diseases, and states that attacks of the latter disease differ absolutely from an attack of gout. Instead of being sharp and of short duration they are apt to last almost indefinitely.

Bacteriologists have long attempted to isolate the germ they believed to be the cause of arthritis deformans, and in some instances have succeeded in the cultivation of bacteria from synovia taken from the affected joints.

Their descriptions of the micro-organisms, however, do not agree. Definite organisms claimed to be the cause of this disease have been found by Dor, Bannatyne and Wohlmann, Schuller and Von Dengun and Schneider.

Dor claims to have reproduced the disease by injecting cultures into the blood of rabbits, and considers the germ an attenuated culture of the staphylococcus pyogenes aureus. Bannatyne and Wohlmann cultivated a dumb bell shaped bacillus, resembling in many cases a diplococcus. They made their cultures from the synovia of the diseased joints. Blaxall found the same bacillus in small amount, in the blood of his patients.

Schuller's description of a bacillus cultivated from the synovia of the diseased joint, its manner of development, etc., does not correspond with that of Bannatyne.

Von Dengun and Schneider cultivated a bacillus from the liver as well as from the synovia. They injected the cultures into the knee joints of rabbits, and claimed it gave rise to a condition resembling arthritis deformans. Judging from these

experiments it seems demonstrated that micro-organisms are constantly found in the synovia of the diseased joints but their true significance and mode of action are still left for future experience to demonstrate.

Osler says the true nature of this disease is still obscure, but the neuro-trophic theory meets with many of the facts. He further states that it is difficult to separate some cases from ordinary chronic rheumatism, but the multiple form has, in all probability, a nervous origin as suggested by J. K. Mitchell. Mitchell's views are based upon such facts as, First, the association of the disease with shock, worry, grief, etc. Second, the symmetry of the joint affections. Third, the similarity of the joint affections to the arthropathies found in disease of the cord as in locomotor ataxia. Fourth, the trophic changes which lead to alterations of the skin, nails and occasionally to extensive muscular atrophy, and lastly the time of occurrence.

Ord believes the disease analogous to progressive muscular atrophy and caused by a lesion of the cord or to changes due to peripheral irritation, traumatic, uterine, etc.

Most cases set in between the ages of twenty and thirty years, although some claim it occurs most commonly at a later period of life, between forty and fifty years. It may occur in childhood.

Women are more frequently affected than men. In Garrod's table of 500 cases, 411 occurred in females. Women affected with uterine or ovarian disorders, or who are sterile, are particularly liable to the affection. Heredity has been traced in some instances. All classes are affected. There is no evidence to prove cold or damp or traumatism to be efficient causes, although some claim the contrary.

Charcot divides the cases into general progressive form (acute and chronic), mon-articular, and Heberden's nodosities. The acute form is difficult to distinguish from acute articular rheumatism. The presence of deforming changes and the extreme pain, out of proportion to the signs of local inflammation should exclude the latter. This form is extremely rare and

is usually found in young women, often in connection with pregnancy, excessive lactation or the menopause.

The chronic form is often equally difficult to distinguish from chronic rheumatism. The latter disease, however, is claimed by some eminent authorities to be far less frequent than was formerly supposed, and many cases diagnosed as chronic rheumatism are in reality cases of arthritis deformans. In chronic rheumatism usually only a few of the larger joints are involved, there is no marked fixation of the joints, and the peculiar deformity is absent. On the other hand arthritis deformans is a progressive disease and does not tend to cause any cardiac complications. Dr. James Steward, of the McGill University, claims there is no sharp dividing line between certain cases of rheumatism and the earlier stages of arthritis deformans.

The editor of the Medical Annual, however, claims that if more attention were paid to the muscles than to the joints during an examination, the difference could be readily determined. He claims the loss of tonicity of the muscles, in arthritis precedes the joint affections, and is so decisive that by merely shaking hands with two patients, each supposed to have only slight rheumatism, it is possible to distinguish the arthritic case from the rheumatic. Later on in chronic rheumatism when wasting of the muscles occur, and so produces deformities which are supposed to be characteristic of arthritis deformans, mistakes are apt to occur. But in these cases the true arthritic patient should present a moist palm; when the skin is dry, chronic rheumatism or chronic gout may be suspected.

The X ray may clear up a cloudy diagnosis providing it be possible to have a radiograph taken.

In the successful practice of medicine, the most essential feature is the ability to make a correct diagnosis, especially does this apply to arthritis deformans. Dr. Ewart, whom we previously quoted, in speaking of the acute variety of this disease, says: "They are generally treated as attacks of acute or sub-acute rheumatism. But the more sedulously anti-rheumatic methods are applied, so much the worse may the

patient's sufferings become and so much the more lasting the pyrexia. The aching, the pain and the fixation of the joints are perpetuated instead of relieved by blankets, fomentations and medicines, and the case seems to be interminable. This peculiar behavior is diagnostic of this type, and affords the clue to the only successful treatment. The onset of amendment dates from the moment when the treatment is reversed, the sufferer allowed to lie in a cooler bed and cold spongings and rubbings, so ill borne in acute rheumatism, applied to the joints and to the general surface.

The bodily nutrition of the patient should be looked after early, by the attending physician. Any derangement of the digestive organs should be attended to. An easily digestible, nutritious diet is desirable. Pyrexia or acute exacerbations of articular inflammation may demand a restriction of the quantity of food and stimulants taken, but after their subsidence, the usual diet may be resumed. The restriction of the nitrogenous foods in this disease, as is often done, is to be condemned. Stimulants, as malt, liquors and dry wines, with strict directions as regards quantity, may be allowed. Meats, especially red meats, usually restricted in rheumatism, should be freely given in arthritis deformans.

Numerous remedies have been faithfully and assiduously used with the hope of curing this disease, but up to the present time we have no knowledge of a drug that has any direct influence in combating the onward course of this incurable malady.

Osler says: "The best that can be hoped for is a gradual arrest. It is useless to saturate the patient's system with the salicylates, iodide of potash or quinine."

Anders and others claim to have obtained excellent results with prolonged use of cod-liver oil. Probably the most efficient remedy we possess for this affection is arsenic. Administered in large doses improvement may often be noticed in a remarkably short time. Its action is no doubt none other than that of a general tonic. In the advanced stages, on the revival of the pains of the recurrence of redness and swelling of the joints its use should be discontinued.

Iron is indicated when anaemia is present. Iodide of iron is a useful remedy and is strongly recommended by Sir Alfred and Dr. A. E. Garrod. Chloride of gold may also be numbered among the beneficial drugs. Iodine and the iodides, so extensively used in these cases, do not deserve the credit formerly given them.

Dr. J. R. Philpots claims to have had excellent results from the use of methylene blue. He writes as follows: "In several very obstinate cases which have lately been under my care, I have administered this drug with the greatest benefit; each case showing marked improvement soon after commencement of treatment. Not only does the arthritic process appear to be altogether arrested, but the drug has a favorable influence on the general condition, improving nutrition and leading to an increase of body weight.

A 2 gr. tabloid is the most convenient form of administration. One to be taken twice daily after food.

Before leaving the medicinal treatment of this disorder, there remains one drug group which should claim our attention. I refer to the salicylates. These are probably absolutely useless, yes, I would say harmful, in the slow chronic and progressive forms, but no doubt exert a favorable influence in the acute exacerbations which are not at all uncommon. They should be administered in full doses as is usually done in inflammatory rheumatism. They should, however, never be continued over long periods of time.

Important as the internal treatment may seem, the local treatment is of far greater value.

In the acute stage the joints should be put at rest. This should not be the complete or absolute rest as recommended in acute rheumatism. Later in the disease the joints need exercise, the adhesions should be gradually broken up, not forcibly, as was so often done.

Cold compresses to the inflamed joints followed by a careful and systematic massage will often alleviate the extreme pain. The massage reduces the swelling, assists in restoring the atrophied muscles and is a benefit to the general health.

Electricity has its advocates. Both currents are used, but probably the best results with the use of electricity are obtained with the electric bath, as recommended by Stephenson.

Thermal baths are undoubtedly of great value. The baths should always be giveu under the guidance of an experienced physician. The indiscriminate use of turkish baths is to be strongly condemned.

The hot air bath treatment so extensively used during the past few years, and so laudably spoken of by its advocates, has by its extended use proven to be of far less value than was at first supposed. This is probably due to the indiscriminate use of these baths often with improper appliances and inexperienced attendants. In those cases in which there is much pain, where the arthritis assumes more of an acute or sub-acute form, the hot air baths are said to relieve the suffering and render the restless and sleepless night one of ease and comfort. In the more chronic cases, where the inflammatory conditions have subsided, this as well as other means affords us little hope to build upon.

Patients should be removed to a hospital or sanitarium for the proper administration of these baths.

The smaller devices for local baths to parts of the body, as the arms or legs, are disappointing.

The conclusions drawn from this paper are: First. That arthritis deformans should be early diagnosed.

Second. That chronic rheumatism, so much formerly spoken of, is a vanishing disease.

Third. That patients with arthritis deformans, if the progress of the disease can not be arrested, should be placed in a hospital or proper institution for the care of these cases.

And lastly, that arthritis deformans up to the present time can not be considered a curable disease, but with the proper treatment, the patient's suffering may be allayed and life prolonged.

REPORT OF CASE.

BY DR. J. A. PERSON, WILKES-BARRE, PA.

READ JUNE 15, 1904.

I have to report two cases of phlegmasia alba dolens, following pneumonia.

Case 1.—In February, 1901, Mrs. M. F., age 28, contracted pneumonia of lower and middle lobe of right lung.

The crisis came on the eighth day. On the fourteenth day of the disease, she developed phlegmasia alba dolens, which ran its course in about four weeks. Recovery complete.

Case 2.—In October, 1903, E. L., age one year, contracted broncho-pneumonia. The crisis came on the twelfth day. The lungs were undergoing resolution and all the indications were that the little patient would soon be convalescent.

On the eighteenth day of the disease I found a sudden elevation of temperature, and the right leg swollen to an enormous size. On the eve of the twenty-fourth day I was summoned in haste; when I arrived, found the child dying.

Death was undoubtedly due to a clot becoming detached in one of the veins of the leg.

REPORT OF A CASE.

BY DR. W. G. WEAVER, WILKES-BARRE, PA.

READ MAY 4, 1904.

An interesting specimen from an Ectopic Gestation.

I present to-night this specimen of an unruptured sac from a tubal pregnancy. On opening the sac at time of operation, the foetus was plainly to be seen. The pregnancy was advanced to about the seventh week. The rupture occurred on the convex surface of the tube, and the resulting hemorrhage caused the most profound shock.

The anemia was very great. When called, I found the

patient very pale, and displaying the characteristic air-hunger resulting from extreme hemorrhage. This occurred on April 12th. I could do no more than stimulate the patient, as she was in no state for operation. On April 15th, I had her removed to the hospital. The blood count on admission was as follows: Red corpuscles, 1,900,000; white corpuscles, 5,820.

She steadily improved and on April 24 the blood count was as follows: Red corpuscles, 3,500,000; white corpuscles, 9,872.

I therefore concluded to operate. I found a large quantity of dark-blood and clots, and the sac protruding from the rent in the right tube. The patient stood the operation well, and she made an uneventful recovery.

The wisdom of delaying operation until shock and anemia had passed was well illustrated in this case. Tubal pregnancy is, however, always to be treated surgically, and if the diagnosis is made before rupture, no time should be lost before operation. After rupture, time to rally from shock should be given, and, if the condition of the patient justifies, to recover also from the extreme anemia following rupture. This will, of course, depend upon the condition of the patient. Though the operation was not performed in this case until eleven days after admission, there was no evidence of sepsis. The temperature remained practically normal, and the patient steadily improved.

THE BY-PATHS OF THE DOCTOR'S LIFE.

BY DR. GEORGE W. GUTHRIE, WILKES-BARRE, PA.

READ MAY 31, 1904.

When our very capable secretary asked me a few days ago if I could present something to-night to take the place of a member who was not able to prepare a paper, according to appointment, it seemed at first impossible to do so. Later it occurred to me that I might throw together a few out-of-harness thoughts that have, at times, been running through my mind, containing a modicum of sense with a great deal of nonsense.

Some of these thoughts, no doubt, are familiar to many of you, especially those who know my erratic way of thinking; but I beg that you will bear in mind, that this is in, no sense, a scientific effort, but just a means of stopping a hole to keep the wind away.

The older I grow, the more do I value my membership in this body, and my membership in the Medical Society of the State, and the American Medical Association, and therefore, I feel it a duty to do everything in my power to help keep up the interest in its meetings, for I never needed the Luzerne County Medical Society more than I do now.

The longer I practice my profession, the more do I become impressed with its dignity, its nobility, its worthiness of all honor and respect.

Do you look for deeds of noble daring, for great sacrifices in the line of duty, for the most perfect self-denial? I believe I can show them to you in the members of the medical profession.

It is a glorious death to die on the battlefield. Embalmed in song and story are the names of such martyrs. But is it not equally noble, like Walter Reid, to face death in the fever camp, to enter into mortal combat with invisible foes: the deadly microbes of yellow fever, of malaria, of dysentery, where the struggle lacks the inspiration of waving banners, the cannon's roar, the bullet's song, the victor's shout?

A short while ago, an honored member of our profession in this State, told me of his most thrilling experience at the time of the terrible explosion in the mines of the Cambria Iron and

Coal Company, which was attended with such appalling loss of life. Volunteers had been called for, especially physicians; my noble friend left his helpless little family, without their knowledge, and went to the entrance of the mine, taking with him several cylinders of oxygen.

Rescue parties had been formed to go in search of the imprisoned miners, and save them, if living; to secure their bodies, if dead; one party refused to go, unless accompanied by a physician; my friend went with them. After searching, in vain, for a long time, he was told by a foreman, who lead the party, to remain with one attendant in a spot until the remainder of the party should call for him. He waited and waited, and no one came; the oil in his lamp began to burn low. Finally, he determined to find his way out, though both were unacquainted with the mine; soon his lamp went out, and they groped about as in a labyrinth, until finally they struck the main gang-way, and a railroad track which they followed to the opening of the mine, when they learned that the foreman had forgotten that the doctor and his attendant were left behind.

This man had been through the terrible Johnstown flood, in which several of his family had been lost, but he told me that he would rather live over his awful experience in the flood, than endure the fearful ordeal of the mine again.

May we not say, as MacLaren said of McClure, "For such risks of life, in other fields, men get the Victoria Cross;" or as the poet has said in homely Cockney dialect:

"Theer's the doctors; tikes their chawnces when the fever's
spreadin' far;
Risk o' life it ain't no bar.
And theer ain't no banners flyin' when they cops it and lies dyin'
Nor no medal nor no star.
When chaps awsts yer whort's the sense?
Whort's the yoose?
Fur why?
Sye the work they did were noble, though it meant they 'ad ter
die,
Sort they are
Knows the wuk they does is wuth it, though it means they 'as
ter die."

In this day, any medical man may be proud of his profession. Immense strides have been made since the day Moliere's doctor was distinguished by his venare—et vomare, et purgare—and was simply a butt for buffoonery. I can recall in the early days of my professional life, hearing my noble preceptor, a genuine Chesterfield, say that doctors who travelled on the continent of Europe would omit the "M. D." from their cards, and be known as a plain "Mister."

But that was before Watson wrote "The Doctor of the Old School," before Leonard Wood was made a Major General, and Governor General of Cuba, before Joseph Lister discovered antisepsis, and was made a peer of the Realm, and before Treves saved the life of the British King.

Hence, I claim it is not out of place for us at this time to indulge in a little personal congratulation on the dignity and respectability of our profession. I would, also, congratulate you, my brethren, on the hopeful sign in our horizon of a united profession. I believe it is a source of genuine congratulations to us all, that the entire medical profession of the country is federated under one general government, controlling the American Medical Association, so that the entire profession may be able to move as one body, with one thought and one purpose. Who can doubt the influence of such a body, in affecting salutary legislation in matters of hygiene and state medicine, and in demanding proper recognition of the medical officer in the Army and Navy?

After our honored secretary invited me to address you on this occasion I began casting around for a subject for these random thoughts; many themes suggested themselves: sociology, state medicine, ethics, and it seemed to me that as we have had a pretty large dose of ethics lately in the revision of our code, that it might not be amiss for me to give you a little more on the same subject, and however heretical it may seem, I determined that the effects of the overdose might be relieved by a little similia similibus curantur.

Ethics is defined by the International Dictionary as "the Science of HUMAN DUTY; the body of rules of duty drawn from this Science."

The code of medical ethics prescribes most explicitly the doctor's duty to his patients; the patients' to their doctors; doctors' to each other and to the profession at large; his duties to the public, and the public to the doctor in return; but nowhere have I seen it writ down that the doctor owes any duty to himself, and it is to this feature of a new code that I would, briefly, draw your attention to-night.

What a slave of duty is the doctor! our living doctor-poet has said it is for the doctor,

"To give what none can measure, none can weigh,
Simply to go where duty points the way,
Faith, honor, duty,—duty calmly done,—
That shouts no self-praise o'er a victory won—
One bugle note their battle-call—
One single watchword, DUTY! that is all!"

But to-night we will have a call off from duty; shut out the vulgar, gaping crowd; have a talk with ourselves, about ourselves; not go searching for nuggets of medical wisdom, nor fossils of forgotten lore; we will deal with sentiment rather than with thought, with the emotions rather than the intellect, consult the poets rather than the scientists, and discharge care for the night.

Does the doctor owe any duties to himself? Yes, many! The doctor owes it to himself that he appropriately appreciate the dignity of his calling; the doctor owes it to himself properly to appreciate the value of his services in a pecuniary way; the doctor owes it to himself to conserve his energies, to take care of his health, and to prolong his life, and to keep his faculties intact as long as possible.

This is a large subject, much too large for an occasion of this kind, so I will beg your indulgence, while I briefly consider the last feature of this new code, namely, the doctor's duty to himself in the way of caring for his health, prolonging his life, and keeping his faculties intact.

Nor is it my purpose to give expression to the old and trite rules of health, pertaining to food and clothing, abstemious habits, freedom from excesses of all kinds; these are all axio-

matic in theory, and are all violated in practice, usually from necessity.

No, it shall rather be my purpose to emphasize the doctor's duty to seek rest and recreation and to indicate some of the means whereby this rest and recreation may be found; in other words, to point out some of the by-paths that lead from the road of duty down which he may go and find the rest he needs.

First, then, I hold it is the doctor's duty to seek rest and recreation.

In this day of bustle and activity, this day in which monstrous energies are in motion, the rush for wealth and power and great achievement, the temptation to stay in the race until we drop on the track is almost irresistible. In the busy marts of commerce, the offices of the money changers, and in professional life, men are working out their energies, and dying premature deaths.

This is true of American life in general, but it seems to me that it is especially true in the medical profession.

In no walk of life is there so much to learn, or so much to do; no profession is so much in touch with all that can be known in science, biology, pathology, bacteriology, chemistry, physics, and the amount of work that comes to the well-equipped medical man is limited only, by his power of endurance, and his ability to perform.

But it is not hard work alone that kills. It has been pointed out, that many of the hardest worked members of our profession have reached great age. A recent example is that of Prof. Virchow, and many others have been named. But these were the investigators, the men of scientific pursuits, rather than the busy practitioners who bear the burden and heat of the day.

It is an undisputed fact, I believe, that the average life of the practicing physician is the shortest of the professions. There must be other causes for this short tenure of life, and we do not have far to go to find them.

Is it necessary for me to argue in this presence, the care and

responsibility, and worry of the medical man? It is not sacrilege to ask who has worries like unto his worries, or cares like unto his cares; and this is what shortens the doctor's life; this is what makes his heart walls flabby, and causes a premature degeneration of his physical structures.

Only a short time ago, a doctor came into my office from a neighboring Pennsylvania town, where he had labored most faithfully for twenty years, and without a vacation. He was ruddy of countenance and of good physique, but his gait was shambling, and his speech was stammering, and he cried as he talked to me; and there were the evidences of wearing out, and my poor, honest, faithful, self-sacrificing brother, less than fifty years old, was a hopeless wreck, and why? He had born the griefs and carried the sorrows of his people for twenty years. The Man of Nazareth did this and the cross of Calvary confronted him after only a few years. Think of my poor brother bearing the cross for twenty years!

Do you need the symptoms of this wearying, worrying care? I promised that we would consult the poets rather than the scientists, and the poets, God bless them, can give us the best picture of this condition:

> "I spied a man whose aged step
> Seemed weary, worn wi care—"

says dear Bobby Burns; and he tells Davy Siller of "The heart-corroding care, and grief that deprived his soul of rest." And how beautifully Shelly says,—

> "I could lie down like a tired child
> And weep away this life of care,
> Which I have borne, and yet must bear."

Do you not see here a most beautiful picture of my poor, care-worn country doctor?

If this picture, which I have endeavored to hold up to you, be correct, is it not the doctor's duty to himself to seek rest and recreation; to get away from responsibility and care?

And now let us briefly consider some of the means whereby rest and recreation may be found; some of the by-paths that lead from this hard road of duty up to the beautiful mountains

of rest; where the birds are singing, and the flowers are springing at our feet, and the laughing rills go dancing to the sea, where we may

"Sing away sorrow and cast away care."

In the first place, then, I hold, the doctor should break away from work and take frequent and prolonged vacations: "Six days shalt thou labor and do all thy work, but on the seventh thou shalt do no work," is the command of the decalogue, and the logic of time seems to justify the common sense of this command. But there is no Sabbath for the doctor; fifty-two days of the year, while other men are resting, he is expected to work; add to this the holidays, and the nights of overwork and it is clearly demonstrable that the doctor's year is two months longer than that of other men. Nature is most accurate in keeping her accounts; no one robs her with impunity; the account is perfectly kept, and payment must be made or the penalty will be inflicted. How can this overdraft on Nature's account be repaid? Simply by retiring from the field of labor, and going beyond call and resting, at least two months of the year. How and where? That must be left, very greatly, to the individual liking of the doctor. Some find their greatest delight in hunting and fishing; I recall one of my old friends of the profession who found his greatest enjoyment with his fishing outfit and his gun. He longed for the hunting and fishing seasons as the hart longs for the water-brooks, and would leave his work very tired and worn, and return in a few days renewed in vigor, having found a complete restoration of his energies.

Travel, in our own country and abroad, to the mind of many, offers the most complete form of mental relaxation and recreation. This to me, is one of the incentives to active membership in our medical organizations, and one of the greatest advantages to be derived therefrom, namely: that it offers to the doctor an excuse for getting away from work once or twice a year on the occasions of the annual meetings of these bodies, both state and national.

The meetings of the American Medical Association, held

as they are by turn in different sections of the country, make the members acquainted with their own country, and every American should know his own country before he travels abroad. It may not be within the ability of many to go abroad, but every doctor, in good standing in his county medical society is a member of the American Medical Association, and has a right, and a duty, to attend its meetings.

As I have intimated, traveling abroad is the privilege of the few, but its advantages are inestimable, and every doctor who can take a sea voyage should do so.

In my experience, there is no more ideal manner of spending a vacation than to get away to the mountains, in a little cottage, "where the violets bloom up to the doorstep," with those you love, "far from the madding crowds ignoble strife," far away from the din of the streets, and the noises of industry, to be disturbed by no sounds, to hear only the song of the birds: the robins and the orioles by day, and the quaint notes of the whippoorwill by night; where nature pleases the eye with landscapes that no painter can produce on canvas; where, as MacLaren says, the foliage shows seven shades of green; where the cheeks are fanned by breezes laden with ozone, and the skin tanned by the sun; where "good digestion waits on appetite, and health on both," and where one may enjoy the honey-dew of slumber and have no figures nor fantasies that busy care draws in the brains of men.

And there is one companion the doctor should take with him when he leaves his work, and that is a good novel, or what is better, several good novels; wherever he goes, whether hunting or fishing, whether traveling in his own country or abroad, or whether resting by the sea or in the mountains, a novel is a most charming companion. History must give us characters as she finds them, with all their imperfections; the novelist deals with the ideal, and he can make his heroes and heroines as perfect as he chooses to have them; the characters of good fiction become very real. Van Dyke says, "There is nothing in history, I am sure, half so real to us as some of the things of fiction," and this is very true; we speak of Wilkins Micawber, John Gray and Weelum MacLure, as being as real

as Benjamin D'Israeli or Danial Boone, or Robert Bruce, and there is no scandal in falling in love with the heroine of a good story, nor no disloyalty in shouting for the hero of a novel, even though he may not belong to our party or to our country.

But vacations must come to an end; at the longest they can last only a few months; hunting and fishing, and travels by sea or land, sojourning at the ocean or in the mountains, and novel reading, all must come to an end, and the doctor must get back to work. Think not that I for one moment decry work; to me there is no glory in life like the glory of being able to work and of having the work to do. I believe, with Osgood, that

> "Labor is rest—from the sorrows that greet us—
> Rest from all petty vexations that meet us,
> Rest from sin-promptings that ever entreat us,
> Rest from World-sirens that lead us to ill."

It is not the work, it is the worry, the sense of care and responsibility, for which I would seek a remedy during the ten months of work; or to return to my metaphor, are there no by-paths into which the doctor may retire during the months of his active work? Yes, thank God, there are many of them, and it will now be my pleasant duty to point them out.

First, there is the by-way of forgetfulness. It is a happy faculty to be able to forget, to leave behind our work and its cares, to get away from our environment, mentally, to practice a sort of auto-hypnotism, or double consciousness. The man who can do this is to be envied. There are many helps to this happy condition, and not the least of which is the well-grounded conviction that we have done our duty, that we have given the best that is in us, and the best that is known to our science and our art. We are not responsible for results, we are responsible, only, for prompt and willing service, and for the best that our craft can give.

Another help to this happy condition, is the cultivation of intimate, friendly relations with our professional brethren. There should be frequent consultations in cases of great responsibility and danger, for there is no comfort to a worried

practitioner like a consultation with a professional brother. To this end, medical societies should be zealously supported and religiously attended, for not only do they develop a high professional standing among their members, but they, also, give security and confidence and peace of mind.

Another by-path, by poets often sung, is the path-way to dreamland. It is a glorious thing to be a good sleeper. Sleep is a great conserver of energy, wherein the tired body and mind find regeneration. The great bard of Avon says

> "Macbeth doth murder sleep—the innocent sleep—
> Sleep that doth knit up the raveled
> Sleeve of Care."

I believe that sleep is an accomplishment that can be cultivated. I once said to Dr. Pepper, "How do you manage to keep up and do so much work?" he replied, "I have learned to sleep by the way. I never resist the inclination to go to sleep. No matter where I am, on the cars, in my office, or in the house of a patient, when I feel sleepy I go to sleep; often when another physician has a patient in my office, I feel sleepy, and I say, 'you must excuse me, but I must sleep,' and I throw myself down on a couch and immediately fall asleep, having previously requested those present to touch me if I do not waken in ten minutes."

I believe that the sleep habit can be cultivated, but under no circumstances, should the doctor resort to drugs to produce sleep. And right here, I beg to digress while I voice a protest against what I consider a slander Dr. Crowthers has uttered against the profession: You will recall that he has recently claimed that twenty-one per cent. of three to four thousand physicians, under observation, of the Eastern and Middle States use narcotics or spirits in excess.

I believe that my doctor associates in the Wyoming Valley and throughout the old Keystone State may be taken as a fair sample of the profession in general, and I know to a certainty that no such percentage of my acquaintances are either drunkards or dope fiends.

Let me for a moment consider the social side of the doctor's life. I need not remind you how the doctors of the hospital

staff and the members of our medical societies are in the habit of meeting socially, after a regular or business meeting, and breaking bread together, where jollity and good fellowship abound. Care and responsibility are not allowed to enter, and dissentions are forced to the back-ground.

While it is not expedient that the doctor be a devotee of club life, a well-conducted social club may be a great blessing to him. Here he may spend leisure moments with congenial souls, "not in rioting and drunkenness, not in chambering and wantonness." Here he may rid himself of care for the time and find pleasant companionship, not "fast by an ingle bleezing finely with reaming swats that drank divinely," nor "where Care, mad, to see a man sae happy, e'en drowns himsel amang the nappy," but where he may realize what Burns said to Lapraik,—

"But Mauchline race, or Mauchline fair,
I should be proud to meet you there;
We'se gie ae night's discharge to care,
If we forgather,
An' hae a swap o' rhymin-ware
Wi' ane anither.

The four-gill chap, we'se gar him clatter,
An' kirsen him wi' reekin' water;
Syne we'll sit down an' tak our whitter,
To cheer our heart;
An' faith, we'se be acquainted better
Before we part.

Awa' ye selfish, warly race,
Wha think that havins, sense, an' grace,
Ev'n love an' friendship, should give place
To catch the plack!
I dinna like to see your face,
Nor hear your crack.

But ye whom social pleasure charms,
Whose hearts the tide of kindness warms,
Who hold your being on the terms,
'Each aid the others,'
Come to my bowl, come to my arms,
My friends, my brothers!"

But the most delightful by-path of the doctor is that which leads to his home. Truly has the poet sung, "there's no place like home," no place like the American home, and the doctor's home should be the most peaceful, the most attractive, and the most comfortable, where the sunshine of love is ever beaming, and where the atmosphere is perfect peace, and where the "toddlin' wee things stagger out to meet their dad." Your Martin Berry's may sneer and call this "sentiment," but it will ever be dear to the American heart.

The sweet singer of the Valley of Wyoming, David Morgan Jones, in his poem Lethe, says,—

"And the poet said, Lethe, flow over my sorrow,
Flow over the slips that my footsteps have made,
Flow over my song that may die on the morrow,
Flow over its flowers that must wither and fade,
But leave me the loves that do sanctify life
And a heart that is stronger than sorrow or strife."

Such loves do sanctify life.

"I believe who hath not loved
Hath half the sweetness of his life unproved;
Like one who, with the grape within his grasp,
Drops it, with all its crimson juice unpressed,
And all its luscious sweetness left unguessed,
Out from his careless and unheeding clasp."

When burdened with the cares of the day, and I am late to dinner, and a dear daughter brings her book, or her playthings, and sits with me while I eat, and charms me with her talk, I know what Burns meant, when he said of the Cottar:

"His wee bit ingle, blinkin' bonnilie,
His clean hearth-stane, his thrifty wifie's smile,
The lisping infant prattling on his knee,
Does a' his weary carking cares beguile,
And make him quite forget his labour an' his toil."

Yes, blessed be love, the love of home, of wife, and of children, and blessed be the nights that call us to kneel at her altar.

"All hail, ye tender feelings dear!
The smile of love, the friendly tear,
The sympathetic glow!
Long since, this world's thorny ways,
Had number'd out my weary days
Had it not been for you!"

And finally, there is one more by-path of the doctor, one that I consider with some hesitation, one trodden too seldom by many of us: the by-path of Faith, of Religion. But why hesitate? Any man who can recall a sainted mother, going about her house singing

"From every stormy wind that blows
From every swelling tide of woes,
There is a calm, a sure retreat,
'Tis found beneath the Mercy-seat."

Or that other beautiful hymn:

"I love to steal awhile away
From every cumbering care;
And spending the hours of setting day
In humble, grateful prayer."

and realizes, way down in his heart of hearts what that faith was to her, must admit that there is much that is satisfying, much that is comforting in an unshaken faith. I believe with Victor Vaughn, that the average scientific man is a religious man, though his creed may not be formulated by any church council. The doctor's creed does not contradict any of the recognized formularies of the churches,—he admits they may be true, but he recognizes God as the source of all energy, the Father of us all, who is worshiped most acceptably by a life of devotion to His creatures, our fellow beings. For if to minister unto one of the least of these is to minister unto Him, then may the doctor expect that most welcome verdict: "I was hungry, and thirsty, and a stranger, naked and sick, and even in prison, and ye did minister unto me; come and inherit the kingdom prepared for you."

Any charity that consists, simply, in giving from an abundance of riches, whose loss is not felt, is not to be compared with the giving of the doctor wherein he gives his rest, his energies, his life. For

"The Holy Supper is kept indeed
In what so we share with another's need.
Not what we give, but what we share—
For the gift, without the giver, is bare.
Who giveth himself with his gift feeds three:
Himself, his hungering brother, and Me."

PROSTATIC HYPERTROPHY.

BY DR. B. J. WETHERBY, WILKES-BARRÉ, PA.

READ SEPTEMBER 7, 1904.

Hypertrophy of the prostate is a chronic, non-inflammatory hyperplasia of all the tissues of the gland, but especially of the epithelial elements, diffuse in its character, and subject to inflammatory attacks and secondary fibrous metamorphosis. (Keyes).

While it can and does occur at a comparatively early period in life, it may be called a disease peculiar to old age, since nearly all our cases are in men who have passed the fiftieth, more often the sixtieth year. A few quotations from the leading authorities as to its frequency and the period of life at which it occurs may be of interest. Taylor says: "In a goodly number of men at and beyond fifty years of age, and perhaps at an earlier period, the prostate gland undergoes a peculiar form of enlargement, generally known as hypertrophy, which may be moderate in size or it may reach an enormous development."

Lydston: "Hypertrophy of the prostate is the most important morbid condition of the organ coming under the observation of the general practitioner. A large proportion of individuals past middle age are subject to it, and are more likely to come primarily under the notice of the medical man than the surgeon."

Thompson: "One out of three men over fifty years of age has moderate enlargement of the prostate, while one out of eight of them has extensive enlargement."

Hyde and Montgomery, in their work on venereal diseases and syphilis, do not treat on the subject.

Fuller, and White and Martin accept Thompson's figures. Keyes accepts Thompson's estimate, and also gives the figures of other authors, some of which are much higher that Thompson's.

Goulay says: "It is true that chronic senile hypertrophy of the prostate is by far the most common affliction of this

organ, but that the disease necessarily occurs in every man after the age of fifty is clearly not the case; and we have abundance of evidence of this fact from our daily observations, and from the testimony of some of the most competent modern authorities. It may be safely asserted that not more than one out of three men of upwards of fifty years of age, is afflicted with hypertrophy of the prostate."

One out of three,—those were Thompson's figures, and that is bad enough.

When we remember the pain, discomfort and ill-health associated with many cases of hypertrophy of the prostate, and then remember again, that about one out of three old men has the disease, we must concede that the subject is worthy of our deepest thought and careful study.

The figures given by the different authorities are fairly uniform, and must be near the truth. Where they differ it is no doubt because of some cases of subacute or chronic inflammation of the gland having been wrongly diagnosed hypertrophy.

The amount of hypertrophy varies from that which is scarcely recognizable to cases in which the prostate may become so large that the examining finger fails to reach its upper border. The normal prostate is about the size of a horse-chestnut and consists of two lateral lobes united by the isthmus. We speak of a third, or middle lobe, but correctly speaking there is no middle lobe. What is known as the middle lobe is in reality an enlargement or hypertrophy of the pars intermedia, or isthmus, or of some part of the prostatic urethra. This may grow or develop into quite a mass, and may project into the bladder, forming a tumor, sometimes pedunculated, which sometimes causes retention by a valve-like, or ball-and-socket action. More or less of this median enlargement is noted in the vast majority of cases,—eighty-one per cent. in Keyes' table.

The normal prostate weighs from three to four drachms; in some cases of hypertrophy it may weigh half a pound. To the finger in the rectum the normal gland is soft, smooth and regular, and, as said above, is the size of a horse-chestnut or an English walnut. When hypertrophied it may reach the size of

an orange. The physician who expects to deal with these cases should educate his touch by feeling the normal gland whenever he has an opportunity, whether a correct diagnosis of the case he is examining demands it or not. In many cases of gonorrhoea, cystitis, constipation, etc., the finger in the rectum will give us much valuable information bearing directly upon the case, besides affording an opportunity to familiarize ourselves with the feel of the normal gland.

The enlargement may be diffuse and uniform, or circumscribed. Generally it involves the whole gland, or, to be more exact, the two lateral lobes, and develops what is called the third or middle lobe. Occasionally the hypertrophy is irregular, affecting one lobe more than the other, or perhaps part of one lobe. It is the connective and muscular tissue that is involved in the true hypertrophic process, with later extension to the glandular elements. The prostate is more of a muscle than a gland; it would be proper to describe it as a muscular body filled with mucous glands, which open into the prostatic urethra. It is enclosed in a fibrous sheath which limits its encroachment on the rectum in an irregular manner, but does not prevent its encroachment on the bladder, sometimes in a very irregular way.

The function of the prostate is to aid in the ejaculation of semen and to compress the neck of the bladder. John B. Murphy says that urinary control is entirely independent of the prostate. He thinks it is more an accessory to the sexual function than to the urinary organs, since he has demonstrated that the sexual function is diminished or altogether lost after prostatotomy or even Bottini's operation. Lydston does not agree with him on this point, but thinks that patients who complain of loss of sexual power are men who are really impotent before the operation. In all my cases sexual power has been in abeyance or altogether lost before any operation. In my last case, a man past sixty, there had been no erection for a year; but the morning erection returned after nonsurgical relief of his symptoms.

If the lateral lobes or the anterior muscular fibers alone are

affected, there may be considerable hypertrophy and the patient feel little or no inconvenience. This is because the enlargement extends into the bladder, but does not press upon the urethra, nor alter the shape and relations of the latter. If the posterior fibers, or isthmus, becomes hypertrophied, the so-called middle lobe is formed, perhaps becoming pedunculated, and retention results.

Hypertrophy of the prostate has been compared to uterine myomata, on account of the accepted idea of the uterus and prostate being analogous, and the irregular forms taken by the enlargements. Two forms of hypertrophy are usually recognized; a primary diffuse adenomotous and a later fibrous. It is probable that all cases are adenomotous in the beginning, and that through later congestion or inflammation they become fibrous. In the early stages if the gland be split it will be found to contain many adenomotous growths varying in size from that of a pea to that of an olive. These growths can be easily shelled out of their capsules, leaving a clean-walled cavity.

Causes: Frankly, we do not know the cause of prostatic hypertrophy; but there are many theories, and some of them may approach the truth. Excessive sexual indulgence has been given as a cause. If this disease is the counterpart in the male of uterine myomata in the female, then this theory does not hold good; for we all know that uterine myomata is more common among unmarried than married women; and races noted for their sexual vigor and indulgence such as the Japanese, Chinese, Indians and Negroes, are almost entirely free from prostatic enlargement. Again, we find it as often, if not oftener, in the continent bachelor as the married man. Some authorities believe that enforced continence, producing as it may a sort of physiological congestion of the sexual organs, may be one of the actual causes.

Can gonorrhoea cause prostatic hypertrophy? Ciechanowsky, after studying a large number of cases over a long period of time, believes that long continued, deep urethritis is an important causative factor. On the other hand, the junior

Keyes, who has access to his father's case-book which contains records of two thousand cases, concludes that deep seated urethritis, either specific or non-specific, makes no difference in the number of cases. It would seem as though an organ or body like the prostate that has been chronically inflammed for a long time must necessarily suffer from the effect of such inflammation; but Keyes, as a result of his wide experience, finds that atrophy of the gland may result instead of hypertrophy.

Senile arterio-sclerosis is mentioned by some authors; probably because it occurs at about the same period in life as prostatic hypertrophy. I cannot think of any other reason.

And so we might go on, naming theory after theory, and finding plenty of cases to bear us out in our opinions; but on the other hand, someone else could take the opposite side of the argument and disprove every one of them. My own opinion is that anything that causes a long-continued congestion of the gland,—sexual excess or enforced continence, a luxurious or sedentary life, haemorrhoids (possibly), an old, tight stricture, whatever it may be, may cause hypertrophy; and since from seventy-five to eighty per cent. of all male urbanites at some period in their lives have had gonorrhoea, this disease may indirectly be the cause in a good many cases. However, as stated before, this is only a theory, or one out of many theories.

Symptoms: Among the symptoms, nocturnal urination is one of the first and most constant. When a man past fifty years of age, otherwise in good health, not suffering from disease of the kidneys, cystitis or some form of nervous trouble, begins getting up at night to urinate, we should suspect beginning prostatic hypertrophy. This symptom may be present for some time before his bladder gives him trouble during the day. Soon, however, he finds himself urinating more and more often during his waking hours, while the nocturnal calls will become so frequent as to interfere with his getting the required amount of rest. He may have to get up as often as from eight to twelve times during the night, as was the case with a patient I had not long ago. Soon comes the constant desire to urinate with inability to completely empty the bladder. The residual urine

decomposes and cystitis supervenes. The patient now has pain most of the time and can think of little except his bladder. A symptom that is almost pathognomonic is the manner in which the act of urinating is accomplished. If the patient is hurried or the call is urgent, when the patient makes an effort to urinate quickly or to increase the force of the stream, it simply retards or delays the act, or stops it altogether. The patient will stand and strain for some time before the urine starts, and then it flows only in a weak or intermittent stream, while at the close of the act, instead of the "piston-stroke" ejaculations, the stream gradually dwindles down to a dribbling, a few drops escaping after the toilet has been made. This symptom usually appears quite early.

In a few weeks or months, generally after a little excess in eating or drinking, or getting wet and cold, especially about the feet and legs, complete retention develops. Unless the catheter is used at once, and this first catheterization is generally put off till the patient can bear his pain no longer, there is overflow; but not incontinence, for the urine leaks from the bladder only about as fast as it is secreted by the kidneys, and the patient experiences no relief from the dribbling. It is at this time that the first symptoms of cystitis often occur, possibly due to infection introduced by the catheter, aided by the lessened resistence of the bladder, due to the extreme distension of its walls. The infection does not limit itself to the bladder, but makes its way to the kidneys, and pyelo-nephritis results. It is a dismal picture,—pain over the pubes, a sense of fullness and weight in the rectum, loss of rest and sleep from frequent calls to urinate, unfitness for work or pleasure during the day from the exactions of the urinary act, the dribbling of urine both by day and night, which unfits the patient for all social pleasures, the attacks of epididymitis which may occur at any time, the general septic infection which finally ensues and which may cost the patient his life. The worst of it is that these symptoms appear, one after another, through a period of several years, at a time when the heat and burden of the day is past and the patient is about to enter upon a few years of well-earned rest and peace.

Until very recently we were taught to use palliative measures and make the patient as comfortable as possible until these measures failed. Sooner or later under such treatment the patient enters upon a period of catheter life from which he cannot escape unless he submits to a surgical operation. The catheter is bad enough in the hands of the most careful physician or nurse; in the hands of the patient himself it is almost certain to be the cause of cystitis and urethritis. So, now, the latest teaching on the subject is to operate early, before the bladder and kidneys become damaged, while the chances of wound infection are at a minimum, and before the general system has become debilitated.

An early operation promises a complete cure, or relief from distressing or dangerous symptoms in the great majority of cases without incurring any great risk. John B. Murphy, in a recent article, reports but a single death directly due to the operation, in a series of fifty-one cases operated upon by himself during the past three years. He begins his article by saying: "The surgery of the prostate is rapidly approaching that of the appendix and gall-bladder in its significance to the surgeon and patient." In studying the report of these fifty-one cases I find that many of them were very sick, some had been sick for many years, and a number of them were past seventy years old. A great many of the cases were complicated by stone, prostatic abscess, etc. Yet, I find that twenty-five were cured and nineteen were benefitted, several of them to such a degree that they might with perfect fairness be really called cured, since they had relief from all their symptoms except a shortening of the time between urinations. Nearly all had been catheter cases, some of them for many years. One man was seventy-one years old, had been a sufferer for eighteen years, had sclerotic arteries, and died from cerebral embolism, soon after the operation. Another case was seventy-eight years old, had had retention for four years, relieved most of the time by the catheter. A year after the operation he was in splendid health, did not have to get up during the night, and could go six hours without urinating during the daytime.

We cannot hope for such good results from non-surgical treatment. If we can get such results from operation as a last resort, what may we not expect when the cases are operated upon early, when the danger is only from the operation and not from the disease itself?

Willy Meyer thinks the proper time to operate is before the catheter life has begun. He says: "If the amount of the residual urine is found to be considerable, and the patient demands relief, I propose operative interference. I emphasize the superiority of prostatectomy, pointing out that it will yield the most satisfactory and lasting results. Should the cutting operation be refused, or I should come to the conclusion that in the given case Bottini's operation is preferable, then I urge the latter. If both operations are refused by the patient, the catheter must of course be resorted to."

As to the technique of the operations it is given much better in the recent text-books and magazines than I could hope to give it in an article of this scope, so I will pass it by. The Bottini operation is falling into disuse except in a few selected cases, prostatectomy by the suprapubic or perineal route being preferred, with the balance being in favor of the latter as being the easiest in the majority of cases.

The general practitioner will see these cases first, and many times will have to treat them to a finish. Many cases cannot, for one reason or another, be operated upon, while others will not listen to the suggestion of an operation. For such we must do the best we can without surgery, and that best is a great deal, if diagnosis is made and treatment is begun early. In order, briefly, to state what I believe to be the best non-surgical treatment, I will give the history of one of my late cases. The patient was a nervous, broken-down man, sixty-three years old. He had been suffering from bladder trouble for three years, and had been catheterized a few times. The usual symptoms of prostatic hypertrophy were present—all of them. He urinated on an average of every half hour during the day, and from eight to twelve times during the night. He was seldom free from tenesmus. The urine was very cloudy, alkaline, full

of pus and swarming with bacteria. The prostate was so large it was impossible to reach its upper border. I began massaging the gland every second day and followed this with bladder irrigations without a catheter or instrument in the penis. I used a quart of antiseptic fluid at each sitting, and at the close of the treatment allowed a few ounces of the solution to remain in the bladder. Internally I gave him first Horwitz's formula of methylene blue comp., and fifteen drops of solution adrenalin chloride three times a day. I had gotten good results from adrenalin chloride in the treatment of congestions and enlargements of the uterus, and reasoned that like results might be expected from its use in the treatment of enlarged prostate, provided the case had not progressed too far. After a few weeks I substituted cystogen for the methylene blue. I also had to lessen the dose of the adrenalin after a couple of weeks on account of it causing a little dizziness. I dropped the dose to ten minims three times a day, and kept it so for a number of weeks.

At the end of three months he declared himself well. He had gone back to his usual work in his store, doing full work every day. The urine was transparent, free from pus and germs, and acid in reaction. He voided his urine only from four to six times a day, and did not get up at all during the night, except when he drank considerable milk for supper or ate water melon. His prostate was about one-third smaller than when treatment was begun, and the finger easily reached up over the upper border. Morning erections, which had been absent for more than a year returned; and altogether he considered himself a well man. He stopped treatment some time ago, but reports occasionally to say he is all right.

I shall continue to watch him with a good deal of interest, as I cannot help believing that much of his improvement was due to the adrenalin.

HÆMATOCHYLURIA SINE PARASITO.

BY DR. FREDERICK CORSS, KINGSTON, PA.

READ SEPTEMBER 7, 1904.

The case herein reported is interesting because of its rarity. I never saw the like before. The literature upon the subject is very meagre and incomplete. There is no allusion to it in "An American Text Book of Pathology" by Hektoen and Riesman. In Osler's "Practice of Medicine," page 859, in a chapter on Anomalies of the Urinary Secretion, are ten lines which I quote in full, viz.:

CHYLURIA-NON-PARASITIC.

"This is a rare affection, occurring in temperate regions and unassociated with the Filaria Bancrofti. The urine is of an opaque white color; it resembles milk closely, is occasionally mixed with blood (hæmatochyluria), and sometimes coagulates into a firm, jelly-like mass. In other instances there is at the bottom of the vessel a loose clot which may be distinctly blood-tinged. Under the microscope the turbidity seems to be caused by numerous minute granules—more rarely oil droplets, similar to those of milk. In Montreal I made the dissection of a case of thirteen years' duration and could find no trace of parasites."

In the Practice of Wood and Fitz, page 1000. "It is likely that a non-parasitic type of chyluria also exists, from the fact that this symptom occurs in persons who have never been near the tropics, and may last for years without other disturbance than painful micturition from the presence of clots in the bladder." Hematochyluria is common in Egypt and tropical America, caused by a parasite, the filaria sanguinis hominis nocturna and diurna, which should be called filaria sanguinis hominis dormientis and filaria sanguinis hominis ambulantis as it is the sleeping state of the host and not the night which is the distinguished trait. The form here called dormienitis does not appear in the superficial blood of a host who is ambulating.

William J., a Caucasian, aged 50 years, complained of bloody

urine. He is of good family history and is in good health. He has never been in the South. His blood contains no malarial parasites and no crescents. By the Tallquist scale hemoglobin is 80, and by the Daland hematocrit the blood corpuscles are normal. Most specimens of his urine were bright pink, as you see; but sometimes one was smoky, which became pink on exposure to air and light. This, I suppose, was hematin, which became oxygenated and combined with some proteid, thus passing into oxyhemoglobin. The urine was of normal specific gravity and slightly albuminous. The first question was whether the color was hemoglobin or bilirubin. A long search revealed no corpuscles except one bottle, in which was a distinct blood clot. In this corpuscles were found. Tincture of guaiacum mixed with an equal part of ozonized turpentine uniformly showed the characteristic blue tint in the brown specimens as well as in the red. Heller's test gave the same result.

In the test-tube ether caused a precipitation of the color, and a drop of the clear layer dried upon a slide showed oil globules (chyle). It is useless to speculate as to the cause of this affection or its pathology. Ordinarily the blood corpuscles and the sugar of the lymph fail to reach the urine in both the parasitic and non-parasitic forms of the malady.

I cannot find that the non-parasitic form ever causes lymph scrotum or elephantiasis. A diligent search at favorable hours failed to reveal the embryo of the Egyptian parasite in this case.

Now, June 30, 1904, William is fully free from the symptoms, and has seen no blood for a month. I do not know what cured him or whether he is cured. He took ergot about a month; afterwards strychnine with elixir gentian and iron for two months.

September 6, 1904. William J. remains well, without a return of hematuria.

P. S. Blood examination excluded a diagnosis of lipemia.

THE REGULAR PRACTITIONER AND SOME THINGS HE HAS TO CONTEND WITH.

BY DR. R. P. TAYLOR, WILKES-BARRE, PA.

READ SEPTEMBER 21, 1904.

Mr. President and Members of the Luzerne County Medical Society:—

The title of my paper to-night is—The Regular Medical Practitioner and some things he has to contend with.

What is meant by regular practitioner? One who practices his profession according to the rules established by law or professional custom. A practitioner of the school of medicine that represents the old system and who is duly authorized as having completed a prescribed course of study according to that school; so called generally by themselves, but by adherents of other schools usually allopath. The honorable regular physician knows no path but the right path which should lead to (I won't say financial) success, honor and renown. He is not a wolf in sheep's clothing, he practices what he preaches, and prescribes whatever drugs he thinks will effect a cure, either in infinitesimal or maximum doses as the case requires. It was not fair of Hahnemann to charge all other practitioners with uniformly proceeding on some one opposite principle as allopathy or antipathy, for neither homeopathy nor allopathy was ever heard of till he chose to invent the terms, and taking one himself gave the other to all the rest of the medical world. Truth is powerful and will prevail; all the other pathies will come and go, but the regular practitioners, as to-day, will be found on the top rung of the ladder, long after we have outlived our usefulness and our bodies lie mouldering in the grave. The things the regular practitioner has to contend with in practicing his profession are legion, viz.: The patent medicine man. The druggist that supports patent medicines. The newspaper proprietor that advertises patent medicines. The indiscriminate dispensary practice. The mid-wife, etc., etc. And as it is impossible to discuss the subject fully in a paper, and as these have been pretty well aired in medical journals for some time back, I will touch on some others I consider more important.

1st. The irregular practitioners. I include in this list non-ethical medical men of whatever school, Osteopaths, Mechano-Neuro-Therapists, etc. These men are depriving the ethical regular practitioner of a source of revenue which rightly belongs to him, although, he may not court such weak-minded, misled patients, who, in the majority of cases, might just as well throw their hard-earned dollars to the four winds as to be humbugged by many of these men.

The question has been asked, "Is there a Medical Profession?" Yes, there is a respectable minority of competent physicians in this country who have banded themselves into county, state and national societies, and while the members of our own profession, the public, the courts and our law-making bodies may not recognize or appreciate us as they ought, yet I believe that time will right all.

To quote Dr. G. Frank Lydston, in a well-written article in the New York Medical Journal, who says: "When we make war upon quackery, the public sizes up the situation thus: 'A certain group of doctors who are bigoted, prejudiced and behind the times, is endeavoring, through fear of a loss of practice, to prevent competition on the part of some men more advanced and intelligent than themselves.'"

"This, indeed, is the view entertained by the legislators, to whom we go humbly, hat in hand, craving favors which we are too poor to buy, too weak to compel and too obscure to request. The quack and the patent medicine man own the lawmakers. The medical man, in the eyes of the latter, is a nonenity. Perchance the maker of the laws has listened to expert testimony in court, and learned that reputable physicians and surgeons disagree as much with each other as they could possibly do with the quacks. He has learned, perhaps, by sad experience in sickness in himself or his family, that one reputable doctor's opinion holds good only until the next man is heard from. He may, perhaps, entertain the mistaken opinion, formed from observation of expert testimony, that doctors are venal and their opinions swayed by financial conditions."

Gentlemen, are these facts? I am sorry to say in many cases

we cannot contradict these statements. There is altogether too much political corruption, and until politics assumes a more healthy atmosphere in our legislative bodies, then, and not until then, will the medical profession secure its true rights and the quack be trodden under foot.

But as long as the quack's money can stem the tide of just legislation it will be done and medical legislation will be a failure. A certain brochure on osteopathy declares the so-called osteopathic method of healing to be nothing but a complete system of charlatanism, empiricism and quackery, calculated and designed to impose upon the credulous, superstitious and ignorant. Expert testimony shows that osteopathic treatment, as applied to many diseases, is positively dangerous, inhuman and barbarous, and that such treatment, unless administered under the supervision and discretion of a person learned and skilled in medicine, would be of no benefit to a patient, but, on the contrary, would do harm. This pamphlet proves that the whole "secret" of osteopathy in a nutshell is manipulation, —massage.

I have neither time nor inclination to dwell on the different devices thrown out by charlatans to fool the ignorant or unwary. One of the latest additions to these was the German charlatan Schroeter, who was recently sentenced to two years' imprisonment. "This astute person claimed the power of diagnosis by an examination of the eyes for the 'spectrum lines' of various diseases which appeared there. He also asserted his ability to see the 'death mark' in the eye some time before any external indications gave warning of the approaching dissolution. Is this the highest development of the 're fracting optician's art?' "

But I think of all the contentions the physicians have to contend with, the public is the hardest contention of all. The physician in years gone by was honored and revered, he was considered the embodiment of altruism, he was looked up to as a philosopher, a deep thinker and the truest of friends. He was a social and intellectual light. His advice was sought on matters outside of his profession. His word was as good as

his bond, and he was appreciated and loved by his patients. The days of good old Dr. McLure have passed into oblivion. The public are more ungrateful. The doctor, in many cases now-a-days, is measured by his loquaciousness, his intrigue, his diplomacy, his pocketbook and not by his amount of gray matter. So many of our patients seem to want miracles performed; they look for an immediate diagnosis and cure, it matters not how flagrantly or how long they have broken the laws of nature, or at what stage of the disease the doctor has been called in. They discharge the physician on the simplest pretext, not even giving him that which is necessary to provide food and raiment. They not only do not stop at this, but he is slandered, blacklisted by their friends, and held up to ridicule. And the doctor in many cases, endures all this in meekness, consoling himself that though he has not been appreciated or rewarded for what he has done in this world, he will be in the next. I do not want to be considered a pessimist, not by any means. But we are passing through an aggressive age in our profession of practicality and commercialism which demands a strong professional union. We want to purge ourselves of all back-biting, all jealousy and covetousness, and be always ready to stretch forth our hand to a true and faithful brother whom, in many instances, an ungrateful public are trying to push down hill. We must demand the amount of professional dignity which regularly belongs to us as educated and scientific men, keep ourselves aloof from babblers and follow in the footsteps of the "Great Physician." We are following in the footsteps which others have trod, and if we cannot leave anything else, let us leave a fair name which shall be an honor to our children.

"Lives of great men all remind us
We can make our lives sublime,
And departing, leave behind us
Footprints in the sands of time."

Again, are we drifting from professionalism to commercialism? If so, who is to blame? The fault must lie at some of our own doors. Allow me to state some things which I think

are tending to keep the ship Commercialism afloat. I do not want to offend any member of this honorable profession, it is the least of my thoughts. But there are certain methods pursued, certain interests held, certain things received, certain things done, which savor of commercialism and lower the dignity of our noble calling in the eyes of the public. Some of you may say, no, it is done from a professional standpoint, and it is all right; the public do not think anything of it. The ignorant classes may not, but the educated classes do. I know it. I have heard it.

Let me mention contract work. Where the physician attends families, the members of a lodge, for a stated sum (less than the prescribed fee), monthly or yearly. I understand there are physicians who do this work for as low as a dollar per month, medicine included. Some are not even satisfied with this breach of professional ethics. I have been told by a most reputable physician in this town of one physician who employs a collector to collect this pittance, and sing his praises from door to door.

I was waited upon by a committee some time ago to ascertain how much I would charge to attend the members of a certain society in this city. I informed them I would answer by letter, which I did. Following is a copy of the letter:

"Mr. J. C., Dear Sir:—Regarding you offer to bid for the medical work of your order. It would be impossible for me to attend any member of your order for less than the regular fee prescribed by the Luzerne County Medical Society, of which I am a member. The fee is $1.50 per visit. This fee is based on a standard that no physician can do conscientious and good work for less, unless he does it for charity. We are governed by what is termed a code of ethics, and every regular practicing physician, the world over, is supposed to be ethical. Advertising physicians, physicians who make calls, do lodge work, contract or otherwise, for less than the stipulated fee charged in his locality, would be considered as unfair physicians, just as much as you would consider members of your order unfair who would work at their regular employment for

less than the regular wage paid others. Physicians who do cheap work are usually men who are not able to succeed by honorable means of competition. One objection to cheap contract work is this, those who are not sick pay the doctor what he does not fairly earn, and those who are sick and require frequent visits receive more visits than they pay for.

"Contracting for work at fees below the regular standard, has been condemned by all the leading medical journals, for it is doing an injustice to all other physicians who are trying to act honorably. It is my ambition to do good work, not cheap work; cheap physicians usually do cheap work and are careless in attendance. Where life is at stake, this does not do. Too great attention cannot be paid the patient. A good, honest physician, who has a high sense of honor and duty to himself and his fellow man, would not accept anything less than the regular fee charged in general, except in cases of charity. If the aforesaid meets with the approval of your order, I will be only too glad to render my services at any time or place, and payments can be made as it suits your order to do so."

I requested that this letter be read before the order. What was the result? I received no answer. But the fish were plentiful, though the lure was poor. A member of this society took the bait, was pulled from the stream of professionalism into the basket of commercialism.

Again, we have the physician who holds a certain interest in a drug store, or in other words is a silent partner. The physician who accepts and receives a certain percentage on every prescription he writes, the physician whose name must appear in the public press in connection with some minor or major operation, the operation, in many cases, being a minor one, but the notice a major one. I confess that some times physicians' names will inadvertently get into the press in connection with some operation, but when you read a detailed and glowing account of the operation, the technical name of the operation given, which really in some cases shoud not appear in a public newspaper, it is suspicious, to say the least. Again we have the physician who has been discharged from a case, it matters not

how honorably you have been called in, and he sulks like a school-boy. The day previous to his discharge, he will shake hands with you up to the elbows; the day after his discharge, he fails to recognize you. This shallow-minded, misguided individual ought to be put on a mixture of one part condensed milk and nine parts of water. It will not be necessary to sterilize the mixture, as the microbe of jealousy, which exists in his system, will destroy any microbe in the mixture.

"I do like a man who will stand boldly up
And tell me at once what he feels;
I will fight with the lion that roars in my face,
But I don't like a cur at my heels."

Again, we have the morphine injector physician, who is always ready, as long as the fee is forthcoming, to inject this drug into the gutter drunkard, the aristocratic drunkard who arrives in a cab, or the regular morphine habitue, who is afraid or not skilled to use the hypodermic syringe. This physician might just as well conduct an opium joint on a small scale; it is not his fault that it is not on a large scale, it would be if the clientele were. You may say the aforesaid things are only being done by charlatans; I answer, "no." I know such things are being done by physicians who are or have been members of medical societies. I am glad that the medical press of this country and other countries are aroused over the matter and are condemning such practices in the strongest terms.

Again, we have the physicians who examine for the industrial branch of some insurance company. I understand he makes what is called an inspection, or in other words, fills out a blank regarding the applicant's present and past state of health, etc., for a remuneration of twenty-five cents, if the amount of the policy is not over two hundred and fifty dollars, and so on in proportion. Now, this physician may have to go miles, if necessary, in some cases to earn this twenty-five cents. I claim that any physician accepting a fee of twenty-five cents from any insurance company for such work is doing an injustice (though he may not realize it) to members of our profession, who are trying to bring the practice of medicine to a high

standard. There is as much time taken up in many cases making this inspection as there is in a regular visit. Why charge twenty-five cents for one from a company who is coining thousands, especially on industrial insurance premiums, as the rates charged are exorbitant in comparison to the face value of the policy, and one dollar and a half for the other from a man who is making just a livelihood? It is incongruous.

I heard a prominent divine in this city state last Sunday, that the worst enemies of the church were within its walls. I am inclined to believe that the worst enemies of the medical profession are within the profession.

"To catch Dame Fortune's golden smile,
  Assiduous wait upon her;
And gather gear by every wile
  That's justified by honor.
Not for to hide it in a hedge,
  Not for a train attendant;
But for the glorious privilege
  Of being independent."

REPORT OF THREE CASES OF MIDWIFERY.

BY DR. J. I. ROE, WILKES-BARRE, PA.

READ OCTOBER 5, 1904.

On Jan. 22, 1904, Mrs. S., a Slavonian, gave birth to a healthy male child, and was attended by a midwife of her own nationality. The labor being over, the baby was washed, and the case was supposed to be terminated. Thirty-six hours later, however, it was discovered that another child was still undelivered, the discovery being made by the extension of a hand and arm from the vagina,—a fortunate occurrence—for had this enterprising foreigner failed to extend "the glad hand," he probably would have been still unborn.

This involuntary act, however, caused considerable excitement, and a messenger hurriedly dispatched for Dr. K. Upon his arrivel the above described condition was discovered, and I was summoned to assist the doctor in the delivery. The patient was put under complete chloroform anaesthesia, and I found the arm and shoulder wedged well down in the pelvis. I was able, however, to push the presenting parts back into the uterus, and after considerable difficulty succeeded in bringing down a foot. After a half-hour's persistent effort I was unable to get the other foot. The uterus being entirely empty of fluid, the contractions caused by my manipulations were so great that, after a few minutes pressure of my hand in the uterus, it would become paralyzed and fairly numb under the great pressure excited by the uterine muscle. I used as much force as I dared in efforts to extract the child by making traction on the leg, but the hand and shoulders would also come down and wedge themselves against the thigh, thus rendering all my efforts futile.

After repeated efforts to get the other foot, I decided that version was impossible, and informed the family that extraction piecemeal would be the only way to save the mother. They consented, and I proceeded to make traction on the child's leg "for fair" and without regard to consequences, expecting to sever the leg from the body, when I hoped to

reach the other leg and complete version, or failing in this, to decapitate. After a very strong pull, however, something seemed to give way, when I again introduced my hand into the uterus and found the relations sufficiently changed that I was able to get the other foot and complete the delivery by podalic version, with very little difficulty. A few moments' artificial respiration and the child began to breathe, and when I came away, it was receiving its first bath in the family wash-tub.

Just three weeks after this case, I was called in consultation with the same physician to see a case which was the exact counterpart of the case just cited, except that the first child was born sixteen hours before the second, and that the midwife knew that a second child was present but assured the family it would come all right without medical aid. The delivery of this case was by no means easy, and was accomplished only after persistent efforts. I succeeded finally in doing podalic version, and was gratified in getting a living child.

Within the following two months I attended two normal cases of twin births, making four cases in about three months. Considering that I did a fairly large obstetric practice for twenty-five years before attending a single case of twin labor, I thought it quite remarkable that I should meet so large a number of cases in so short a time.

The last case I wish to report is interesting only as bearing on the question as to how soon after childbirth can conception again take place. I can find very little literature on the subject, —one authority stating conception is impossible before fourteen days.

I recently attended a case where a full term, well-developed child was delivered in nine months and thirteen days after a previous delivery. From the delivery of her last child until this birth was just 288 days. Taking the average duration of pregnancy as 278 days, conception probably occurred about ten days after delivery, and as the mother admitted that such an event was possible, I am inclined to think this case is certainly a record breaker.

CASE REPORTED.

BY DR. CHAS. L. ASHLEY, PLYMOUTH, PA.

READ OCTOBER 5, 1904.

Mrs. Morgan, age 24; family history negative; past history—began menstruation at 12, always regular. Married at 20. Has had two children, the last one 14 months ago.

Present history—Menstruation was due June 4, and came on as usual, but patient did not cease to flow after her usual five days. Noticed at times pain in right ovarian region, especially when walking. On the 9th of July I was consulted and suspected an abortion. Vaginal examination did not, at this time, reveal anything except tenderness on right side, and some bloody discharge.

Patient was not seen again until July 11, when she complained of severe pain in right ovarian region. Examination at this time revealed a mass as large as a lemon, on the right side. I suspected tubal pregnancy. A consultation was requested and arranged for the following morning at 9 A. M., but at 3 A. M. I was summoned with the message that my patient was dying. I responded as quickly as possible and found her in a state of collapse with symptoms of internal hemorrhage, and my prognosis to the family was very guarded. However, Dr. Barney, my consultant arrived at 9 A. M. There seemed to be no doubt about the diagnosis, and with a patient practically dead, we thought there was not the least hope.

The patient had had two quarts of saline infusion, beside other stimulant, but did not seem to rally until toward evening, when she asked for water. I had hopes now and suggested an immediate operation and was met with the usual family objections.

I was called again on the morning of July 12th, at 3 A. M., and found my patient back in the same collapsed condition. I told the family their only hope was in an immediate operation and they agreed.

I obtained a nurse, who prepared a room and dressings, and at twenty minutes to seven I operated, assisted by Drs. Whitney and Roberts, of Plymouth.

The mass was readily found, after the blood was evacuated, but still bleeding. The tube was ligated on both sides en masse, and the sac, together with the ovary, removed. The patient seemed to be growing weaker and the abdomen was closed hastily with through and through silk worm gut, without drainage. After the first twenty-four hours the patient made an uninterrupted recovery. I show you the specimen removed.

BACTERIOLOGY.—ITS RELATION TO DISEASE.

BY DR. J. F. SHAW, WILKES-BARRE, PA.

READ OCTOBER 19, 1904.

This paper is not intended for the instruction of the expert bacteriologist, but the result of observations from the standpoint of the general practitioner.

As bacteriology is the infant branch in the general science of medicine, the fundamental facts relating to it have not as yet been so well established as they have been in the other and older branches of medical science, such as anatomy, physiology, pathology, surgery, etc.

The whole medical fraternity are more or less familiar with the history of the first discovery of germs by the famous Pasteur, consequently it would be unnecessary for me to say anything in particular on that part of the subject. However, judging from an article which I recently came across in one of the leading medical journals, it would appear that all medical writers do not agree exactly on this question. The writer, of the article above referred to, made the statement "that it was while experimenting with brewers' yeast in order to find out the reason why it worked better at one time than at another time that Pasteur discovered the existence of germs. His experiments on brewers' yeast were carried on at a later date and were used to illustrate and prove the correctness of the theory which he had announced, that all fermentations were due to a living germ and not to molecular motion, which was the accepted theory immediately previous to his discovery.

Since the time when Pasteur made his first discovery of the existence of germ life, which is comparatively a short time, experiments have been carried on so vigorously by many other investigators, and discoveries in this new field have been so rapid, that a regular and orderly classification of the different germs and the facts connected with them has seemed almost impossible. While many of the recent investigators have pushed their experiments to more definite conclusions along particular lines and have discovered a great many facts in re-

lation to germ life that have been valuable to us as physicians in the treatment of disease, yet when the subject of bacteriology is discussed we always think of Pasteur as the great discoverer who opened the door to this great broad field of scientific research, and made the work of those who followed after him possible. So rapid and varied has been the advancement in discovery in this new science the first few years, that what we accepted as a fact one day would in the light of more recent investigation be almost entirely untenable the next. It has revolutionized surgery and pathology, and made many changes necessary in the practice of medicine, and has caused the chapters on the acute infectious diseases to be entirely rewritten, and made it necessary to place a number of other diseases in this class, which were formerly in some other class, and has consequently modified our treatment of that class of diseases.

The result of investigations the first few years was simply an accumulation of isolated facts as each investigator discovered some new fact in relation to germs and published it. Out of this class of facts we have been able to evolve a few underlying principles, which are applicable to most of the pathological germs and which we take as a basis of the science of bacteriology.

First. Bacteria are a very low form of organic life, principally of vegetable origin.

Second. They are capable of development and multiplication when surrounded by suitable environments, such as proper temperature, moisture and proper soil.

Third. They always modify the soil or media on which they grow, that is, change the chemical composition of the soil.

Fourth. The germ is always modified by the conditions under which it is propagated, such as the temperature and the variety of soil. Grown in some soil it has a tendency to become more virulent, while grown on a different soil or at a different temperature it has a tendency to become attenuated.

Fifth. Some are aerobic and some are anaerobic, that is, some require the presence of oxygen for their development while others develop in the absence of oxygen.

Sixth. They produce a chemical substance which we call toxin, each germ producing a kind peculiar to itself.

Seventh. In some cases, by their irritation of the tissues, they set up a reaction on the part of the tissues which produce what we speak of to-day as an antitoxin.

Eighth. Their action is in a way self limited.

Ninth. Like all organisms, that grow and multiply, they, by their life process, make an impression on their surroundings, and when the environment or soil in which they develop is the human body, they produce a pathological condition which we call disease. It is this action that makes them interesting to us as physicians.

It is not my intention in this paper to try to cover the whole subject of bacteriology, but to refer briefly to the application of the principles above referred to, to the etiology of some of the diseases with which we most frequently come in contact.

During the winter of 1894 it was my privilege to listen to the lectures of an eminent professor of surgery, who was also an enthusiast in the then new and rapidly developing science of bacteriology. He opened the series of lectures with the following remark: "Everything that lives must die, and dying, disintegrate and return to its original elements, and the microbe does it." These were the words of an enthusiast, and like all enthusiasts in any particular branch, whether it be hydrotherapy, electricity, etc., they are liable to claim more than the general practitioner is inclined to concede. While, no doubt, the science of bacteriology has settled the long agitated phenomena of fermentation and decomposition, we, as physicians, are interested in that part of bacteriology that includes the germs which produce disease and their relation to pathological conditions as an etiological factor, and how they bring about those conditions or how they aggravate them after they already exist.

It has always been my belief that there must exist primarially some pathological condition before the germ can commence to develop and thereby become a factor in the production of disease; some local irritation, some lowering of the vitality of

the part, otherwise there would not any of us exist long, as we are constantly coming in contact with disease germs.

Taking, for instance, some of the diseases which are commonly admitted by all to be due to the influence of bacteria, such as diphtheria, tonsillitis, pneumonia, erysipelas, in fact all the diseases that are known to-day as acute infectious diseases. In diphtheria and tonsillitis there always exists a hyperaemia or congestion of the tonsils many hours and sometimes days before the development of the membrane.

Pneumonia is usually preceded by a lowering of the vital forces, either by undue exposure or unhygienic surroundings, poor environment, or excess of some kind; and in erysipelas we can usually find, be it ever so small, some abrasion or traumatism which was the beginning of the inflammation. The same may be said of the other diseases of this class. If we do but look carefully enough we will find some pathological condition existing primarily. Strenuous efforts have been made in recent years to prove that cancer, and the epithelial variety in particular, is due to a bacteria. Taking the formation of excresences on certain trees, which is supposed to be due to the irritation or injury caused by certain insects, some have tried to reason that the epithelioma was due to the irritation of a particular germ. This theory, I understand, has been exploded by more recent investigation. To prove that cancer was due to bacteria has been the dream of bacteriologists for years. As far back as twelve years ago a noted pathologist showed me the germ of cancer under the microscope in a section of tissue taken from an epithelioma; but some eminent investigators have recently claimed to discover that the microscopical objects which were mistaken for cancer germs were the debris of broken down cells. Until we find some more plausible explanation we are obliged to return to the theory of Conheim, that of misplaced embryonic cells, to which we might add the occurrence of some local irritation accompanied by a lowered resistance of the surrounding tissues, in support of which attention is called to the fact that cancer seldom occurs in young people, but usually in those of middle or advanced life, when certain of the tissues are less active and less resistant.

The two principal tissues of the body are the connective tissue and the epithelial tissue, each having its legitimate domain, and the different organs and parts of the body are made up principally of these two tissues united in different proportions. At different ages one or the other of these two tissues are relatively more active or energetic than the other and under certain circumstances has a tendency to invade or encroach upon the domain of the other tissue upon the occurrence of some irritation.

So long as these two tissues remain equally balanced and neither one invades the domain of the other, we do not have any development of neoplasms, but when one of these tissues becomes abnormally active, owing to some unusual stimulation, and the other tissue becomes less resisting, then we have the one tissue encroaching on the domain of the other and as a result a neoplasm.

In youth and middle life the connective tissue is most active and the epithelium less resisting, that is the age when we see tumors of the connecting tissue type most frequently developing. In middle or advanced life the connective tissue becomes less resisting and the epithelial tissue more active, and it is at this age we more frequently meet with the epithelial type of neoplasm as the different kinds of carcinoma, epithelioma and tumors of the different glands which are a result of the abnormal development of epithelium which breaks through the protecting bands of connective tissue and proliferates into the spaces not intended for it. We do not wish to say that young people never have tumors of the epithelial type, but they are comparatively rare, nor that older people never have fibroid tumors, but they are not met with very frequently, rather the exception.

In young people we see most frequently the fibroids, polypoid growths, keloids, and a variety of warts. If we will examine these warts carefully we will see they are an overgrowth of the connective tissue layer of the skin, the surface epithelium often being brushed off by coming in contact with external objects. Histologically they are not like the warts and moles of older people, which suddenly take on an active growth and develop

into epithelioma and lymphadenoma by an abnormal development of the epithelial elements for the reason that in elderly people the epithelial elements are relatively more active and the connective tissue has become less resisting.

This may seem somewhat like a digression from the original subject, but I quote this theory in support of my contention that no one specific germ is the cause of cancer or other neoplasm. That a particular germ is not the same under every circumstance but is modified and either becomes more virulent or attenuated according as it is grown on a different soil or at a different temperature is evident to a careful observer. The surgeon tells us that the pyogenic bacteria always exist in the deeper layers of the skin.

Pathology teaches us that a boil is the result of infection of a cutaneus gland by this same germ, evidently in the former case the germ had become modified by the environment in which it had been propagated or else it is not the same germ. That certain germs are modified by the temperature at which they are grown is illustrated by the action of the anthrax bacillus, which when grown at a temperature of 38 degrees centigrade, is very virulent, and when grown at a temperature of 41 or 42 degrees centigrade, is quite innocent and will not produce the same pathological conditions as that grown at a temperature of 38 degrees centigrade.

Then we know that pyogenic bacteria infect the mouth, the nose, the vagina, and other mucous surfaces continually, and do not produce any symptoms until some local irritation or congestion occurs. Also we know that vaccine virus is an attenuated germ. Again we note the difference in the severity of epidemics of some of the acute infectious diseases. Some epidemics being very severe and other epidemics being very mild, the latter being due to the fact that the germ has in some way been modified or attenuated. No doubt the personal resistance of the patient has some influence, but when we take a large number of cases in succession and find that nearly all run mild or all severe, the personal factor is eliminated from the case.

There is a class of diseases in which the germs play an im-

portant part, although not usually recognized, viz: Skin disease, and especially that troublesome variety of skin disease, eczema, and similar common eruptions.

The primary lesion is due to some local mechanical irritatant or some chemical irritant circulating in the blood vessels of the skin, the bacteria then coming in contact with the eruption on the skin tend to aggravate and continue the diseased condition. There is no doubt that some forms of acne are caused by local invasions of the glands of the skin by germs. Also some cases of alopecia.

Now this leads us to the question: How do the germs injure or destroy life? By their action on the tissues and liquids of the body they produce ptomaines or toxins which are absorbed by the blood vessels and lymphatics and produce the symptoms of disease. This general fact is well known. Now when we say they produce a toxin it must not be understood that they manufacture a poisonous substance on the same principle as one of the glands of the body produce a chemical substance out of the blood, as for instance, the salivary glands produce saliva, or the sebaceous glands produce sebum, or the mucous glands produce mucous, but they simply grow and multiply, and in this process of multiplication they extract from the surrounding tissues and liquids of the body the chemical elements necessary for their growth, thereby changing the chemical composition of those surrounding tissues and liquids and in that way producing a poisonous substance.

There has been considerable discussion as to whether the changes which are produced in the human organism by the development of the germs are in the blood or the surrounding cells and tissues of the body. Which change constitutes in some cases what we call immunity.

In some instances at least the principal change is in the lymph and serum of the blood, otherwise we would not be able to produce from the blood an antitoxine as we are at present doing, which, when injected into the circulation of a person, produces for a limited time an immunity from the disease produced by that particular germ. But if it were so in all instances then we would be able to obtain an antitoxine for every acute infec-

tious disease from the blood serum, which we have as yet been unable to do. My opinion is that when the principle changes are in the lymph and blood serum, the immunity is limited, and when the principle changes are in the cells and tissues complete immunity is conferred. The action of the germ is self limited. Now this is a term that is used very loosely. The action of a germ is not self limited, the germ never limits its own action. In first place its action is partly limited by the reaction which it sets up in the organism, in second place by the chemical changes which its development causes in the tissues, thereby making them an uncongenial place for its further development, consequently it ceases to develop, and it is those changes in the tissue that give complete immunity.

In conclusion, I have not attempted to take up each individual disease and the specific germ which is the etiological factor in that particular disease, and go into details of how it became the cause of the disease, its mode of invasion, etc., that would take whole volumes, not a single paper.

In view of the foregoing facts in relation to disease germs, I would emphasize this fact, that prophylaxis is one of the greatest means by which we can combat acute infectious diseases. Good hygienic surroundings, proper mode of living, cleanliness, correct habits, etc., keeping the standard of general health up to par, thereby making our bodies an uncongenial soil for the development of the germs which we are compelled to come in contact with in our daily lives, as it is impossible to destroy all the germs, therefore our hope to a great extent lies in making ourselves as nearly germ proof as possible by the observance of these principles.

The prevalence of acute infectious diseases in large cities is directly in proportion to the unsanitary conditions existing there, being more prevalent in the more unsanitary districts, owing to the depressing influence on the general health which those unhygienic surroundings have upon the inhabitants of those districts. This fact is being recognized by those practitioners who have more recently been paying special attention to the treatment of that most important of germ diseases, tuberculosis, as they are beginning to pay more attention to the

patient and his environment and relatively not quite so much to the germ.

Another fact I wish to emphasize is, that in forming conclusions from laboratory experiments, we have to remember that the action of a germ developed in the laboratory is not always identical with its action when developed in the human organism, as in the latter instance we have the reaction or resistance of the living tissues to take into account.

That vital power existing in the tissues to overcome or resist injury, which consequently modifies the action of the germ —producing that something we call antitoxin. Laboratory experiments produce no antitoxin.

DISCUSSION.

DR. WYCKOFF.—The science of bacteriology may be said truly to begin with Pasteur; but it is interesting to remember that observations began with Leeuwenhoek, in 1675. He described micro-organisms which he saw with a single lens, ground by himself.

It is well to recognize another debt we owe to the saprophytic bacteria. Through their agency alone, dead organic matter is oxidized with formation of carbon dioxide, ammonia and water so that the needs of growing plants are met and we live.

Most important of all, the subject of bacteriology reminds us of our medical ideal: the prevention of disease.

We think of questions pressing to research, and rightly; but for us here the nearer call is to make effective what we already know. People need teaching, and help to live up to the teaching; about infectious diseases, that they are avoidable; disinfection, isolation. About increasing resistance to disease by the increase in strength that comes with right living.

And, working alone, in politics and as a member of various boards, public and private, it is above all the physician who can and should most intelligently initiate and direct the efforts to relieve and finally to abolish conditions fostering disease-insufficient, ill-chosen, ill-prepared food, impure water, bad air, depressing emotions, crowding and unwholesome surroundings in home and work, place, exposure to cold, drunkenness, poverty. You can all complete the list, the "general misery," *all preventable,* that comes upon the ignorant, the unfortunate and the careless, everywhere, and constitutes the great factor in the causation of weakness and sickness.

CASE REPORTED.

BY DR. JAMES BROOKS, PLAINS, PA.

READ OCTOBER 19, 1904.

I have only jotted down a few notes from memory, of an interesting case I attended this spring.

The subject was a young man, 16 years of age, but unusually developed. He had been treated previous to my attention for eight or ten days by a physician who diagnosed his case as typhoid fever. I found him with a high temperature (104), rapid pulse (120), increased respirations, tongue coated with a dark brown coat and complaining about severe pain in the back, and down the legs.

Upon examination, I passed my hand down the spine to locate the seat of pain, and found it was in the rectum. I made a careful digital examination of the lower bowel, and came upon a large swelling situated rather high up and upon the anterior portion of the rectum; carefully palpating I found pus distinctly. There was also a large baggy swelling of the perineum, which extended a little beyond the posterior part of the scrotum. I said to him, "Young man, you have been monkeying around the girls." I questioned him closely, and he admitted having an attack of gonorrhea for some months, and still was suffering from it. I asked him if he said anything to the other physician or to his folks, he said, "no," that he was afraid.

On further examination, I found a stricture at the meatus, which was nearly closed, also one at the membranous portion of the urethra, there was also a profuse discharge.

Now, I found I had a urethro rectal abscess to deal with, which, in the first place, resulted from a stricture of the membranous portion of the urethra, which ultimately ended in a urethro rectal and perineal fistula, the water escaping from both apertures when the patient voided his urine. These cases are very rare and the prognosis grave, according to the limited amount of literature upon the subject, but my case got

well either by good luck or good management, which I cannot say.

Now, in regard to treatment, I gave the patient an anaesthetic and dilated the spincter muscles thoroughly, and opened the abscess in the rectum.

The amount of pus which escaped was about one-half pint. I also opened the bag-like swelling in the perineum, which contained nothing but gas that escaped through the fistulous opening from the bowel, and a little urine.

I then took my scapel and cut the stricture at the meatus and gradually dilated the stricture at the membranous portion with sounds. I kept the meatus from healing by inserting a piece of rubber catheter, guarded by a safety-pin. I paid no attention to the fistula openings, but left them for nature to heal, but frequently dilated the muscles of the rectum and passed the sounds, keeping the outlets free.

In the course of three months the fistula healed and my patient was well.

CASE REPORTED.

BY DR. RAYMOND L. WADHAMS, WILKES-BARRE, PA.

READ NOVEMBER 2, 1904.

H. G., white, American, 16 years old, occupation chain handler at one of the L. V. Coal Co. breakers at Maltby. Family and previous history negative. On the 25th of March, 1904, soon after going to work in the morning, he was caught between a stick of timber and a car, and as a result he received a laceration about three inches long just above the crest of the ilium on the left side. This laceration was through the entire abdominal wall, and on admission to the hospital about two feet of small intestines had passed through this opening and were in a coil just outside of the abdominal wall suspended by the mesentery. He also had a dislocation of the left sterno clavicular articulation and several small contusions about his trunk and face.

After receiving the above outlined injuries this boy was rolled up in some very dirty blankets, the protruding intestines lying in the blankets without any other protection. The day was cold and raw and the covering inadequate. He was put in the mine ambulance and, after starting for the hospital, was met by the physician summoned, who, after giving a hypodermic of morphine, hurried him to the hospital.

Upon admission he was found to be in fairly good condition, shock was not severe, his pulse being eighty and strong. The protruding intestines were wrapped in hot sterile towels and kept wet with hot deci normal salt solution. After a rapid bath and hypodermic of strychnine, ether was administered and a more careful examination of the injury was made.

The blow had been at a tangent to the body, and not at right angles, so that the wound in the skin was not over the muscle wound. The muscles were torn from their attachments on the ilium and the peritoneum torn for about two inches.

After thoroughly cleansing the surrounding skin, the coal dirt was wiped from the bowel with gauze. The intestines were then washed with 1-5000 bichloride solution, followed by large quantities of salt solution. The intestines were then returned to the abdominal cavity. The peritoneum sutured with No. 2 formalin catgut. The muscles were sutured together with catgut and the skin and subcutaneus tissues closed up with silkworm gut. Two retention sutures of silkworm gut were passed through all tissues down to the peritoneum, coming out about two inches from each side of the wound. His recovery was uneventful. His highest temperature was 101 degrees, pulse 104 and respirations 28.

The wound healed without infection. A small portion of skin at the lower angle of the wound, which was very much bruised, broke down. The whole wound was healed and the boy went home on the thirty-third day after the accident.

THE TOXAEMIA OF PREGNANCY.

BY EDWARD P. DAVIS, A. M., M. D.

Professor of Obstetrics in the Jefferson Medical College; Professor of Obstetrics in the Philadelphia Polyclinic; Visiting Obstetrician to the Jefferson, Philadelphia and Polyclinic Hospitals, etc.

READ NOVEMBER 16, 1904.

Among the most important problems in obstetrics awaiting solution is the toxaemia of pregnancy.

The modern conception of this subject makes it responsible for eclampsia and probably for the pernicious nausea of pregnancy. We shall possibly understand better the grounds on which it is recognized if we consider briefly the modern conception of the physiology of pregnancy.

Pregnancy inevitably exposes the mother to danger. The foetus by its syncytium invades not only the tissues of the maternal body, but frequently the blood current. In health, the mother's immunizing substances in her blood serum keep the growth of foetal tissue within normal limits. If this boundary be passed clinical evidence leads us to recognize the transference of syncytial substances to the mother's blood as a potent cause of syncytioma malignum, pernicious nausea of pregnancy and eclampsia.

Pregnancy induces marked abnormalities in the metabolism of the mother. Her enlarged thyroid illustrates the necessity for the increased production of the immunizing substances furnished by this gland. The anemia and leukocytosis of early pregnancy draw attention to alterations in her blood. Changes in the heart muscle, in the parenchyma of the liver and kidneys show the effects of altered blood condition in these important structures. Altered pulse tension gives evidence of the abnormal condition of the nervous system. These conditions are so common in pregnancy that they are not usually considered as disease, and frequently pass without detection. A pregnant woman is ordinarily said to be well if she passes through gestation without its premature interruption and without eclampsia. The balance between health and disease is rarely undisturbed.

The earliest manifestation of the toxaemia of pregnancy is

seen in pernicious nausea. This has long been regarded as largely of reflex nature, caused by the irritation to the nervous system of the growing uterus. There seems no reasonable doubt but that the enlargement of the womb in many patients irritates the nervous system; but that this alone produces pernicious nausea, or is largely responsible for it, seems most unlikely, in view of the post-mortem findings. Marked changes in the liver, blood, bone marrow and in the organs of excretion are the striking features in these cases. Ewing, of the Cornell Medical School, from a study of the changes in the liver, advances strong evidence that a toxaemic condition causes pernicious nausea. Clinical evidence supports this, for our most reliable indication of the patient's danger lies in the examination of her blood and in the presence or absence of the signs of pernicious anemia. The most successful treatment for the pernicious nausea of pregnancy is skillful feeding and absolute rest. When these fail pregnancy must be interrupted. The correction of uterine displacement is manifestly indicated but does not avail in severe cases. Pernicious nausea is sometimes observed in the same patient when multiple pregnancy is present, and in the same patient is absent when single pregnancy occurs. This is true at a period when the uterus is not sufficiently distended to cause marked reflex irritation. An illustration of the fact that distention of the uterus is not an essential cause in pernicious nausea is found in the circumstance that many patients with polyhydramnios escape nausea.

It may be interesting to review briefly the methods of investigation available in the study of toxaemia and their results. We are all familiar with the examination of the urine by chemicals and by the microscope. By chemistry we seek to ascertain the quantity of solids proportionately contained, the reaction of the urine and the presence or absence of substances indicating alterations in the blood. We also determine the percentage of urea, not because urea itself is a poison, but because it represents the finished product of metabolism, and is of clinical value in showing that the patient's metabolism is habitually abnormal or within the range of health. It is true that

at times the percentage of urea varies widely, but the examination of specimens at regular intervals, with a knowledge of the patient's diet and hygiene, will enable the physician from the percentage of urea to gain information of value regarding her general metabolism. Chemistry also gives us information about the presence or absence of albumin, although this is of secondary importance. By the microscope we detect debris from the kidney, crystals illustrating abnormal metabolism and also substances caused by the dissolution of the blood. The microscope is occasionally requisite to identify bacteria. By cryoscopy, or the determination of the freezing point in the urine, we have a method of considerable value which enables us to estimate the concentration of the urine and to compare this with that of the blood. By the injection of urine into living animals we have a comparative test of value in ascertaining its toxicity.

Our available methods for examining the blood in these cases consist of the use of the microscope, chemical tests for the recognition of hematin, inoculation tests of blood serum to determine the toxicity of the blood in animals and cryoscopy to determine the molecular concentration of the blood. We may study the mother's immunity against the syncytium by the injection of animals with placental substance. We may also by lumbar puncture extract sufficient serous fluid to enable us to study the degree of toxicity in the mother's serum. By the ophthalmoscope we may gain accurate evidence of the conditions of the small vessels as illustrated by the retina. By blood-pressure apparatus, we study graphically the mother's blood tension. The usual methods of physical diagnosis give us information concerning the heart action and the general condition of the vessels.

It is unfortunate that we possess no simple and reliable method for examining the fæces. Those methods available are complicated and require expert chemical knowledge and prolonged research.

Too much importance cannot be placed upon the study of toxaemia by the patient and careful observation of the physi-

cian, without recourse to technical examination. A practitioner of experience will readily detect alterations in the patient's blood, abnormal conditions of pulse tension, evidence of impaired nutrition and excretion and habitually altered action of the heart. The state of the mind and of the automatic portions of the nervous system can well be ascertained by clinical observation. Our modern study of this question would lead to the positive injury to the profession if it caused practitioners of medicine to think that they must wait for elaborate examinations in laboratories before making a diagnosis of toxaemia. By appropriating to our use data furnished by laboratory methods, and by using these data to correct our own observations we shall rarely fail in a correct diagnosis.

By the methods of investigation described, our best knowledge at present leads us to believe that the toxaemia of pregnancy is not essentially of nephritic origin. Numerous observations and experiments have shown that the urine is not essentially altered in molecular concentration during toxaemia and eclampsia; that the toxicity of the urine is not materially increased in toxaemia and eclampsia; that eclampsia occurs in some cases with little disturbance in the secretion of urine and without albumin; and that patients who have nephritis do not necessarily become eclamptic. It is interesting to observe that in toxaemia and eclampsia the chlorides of the urine may be greatly lessened and that the amount of water in the urine also decreases. This variation in the chlorides suggests the phenomenon seen in pneumonia, where a sudden change in the chlorides is usually regarded as evidence that the toxaemic crisis of pneumonia is passing.

While the study of urine does not give evidence of marked renal changes in the toxaemia of pregnancy, the examination of the blood is more conclusive. The blood serum is these cases is distinctly toxic, causing the death of animals with convulsions and with the characteristic changes of toxaemia in the important organs. The blood is lessened in its alkalescence, by some is thought to be increased in molecular concentration and to have increased crystaloid contents probably of nitrogenous origin. In eclampsia the red blood cells are greatly changed.

The following striking demonstration of the condition of the blood in eclampsia and nephritis is given by Bell in cases occurring at St. Thomas' Hospital in London. A primipara eight months pregnant was admitted to the hospital in eclampsia, was delivered, developed intense jaundice and died. Autopsy showed in the liver the characteristic lesions of intense toxaemia and the urine contained lucein. Blood serum from this patient taken before death was injected into animals and proved highly toxic, the animals dying with convulsions and characteristic lesions.

At the same time blood serum was taken from two cases of chronic nephritis in the last stages of the disease and approaching death. One was interstitial in character and the other nephritis affecting principally the convoluted tubules. The blood serum in these patients occasioned but trifling inconvenience to the animals into which it was injected, producing no convulsions and interfering with the general health of the animal very slightly.

Lumbar puncture and the examination of cerebro-spinal fluid by cytoscopy shows that the lymph cells of this fluid are markedly altered in a number of conditions in which the nervous system is primarily attacked. Thus in cerebro-spinal meningitis, in locomotor ataxia and in rabies, important changes in this fluid have been found. The number of cases of pregnant women with toxaemia in whom this fluid has been examined is as yet too small to enable us to determine the condition of the cerebro-spinal fluid.

Recognizing that the poison of toxaemia is found in the blood serum, we must next question the possible source of this poison. As modern investigation has shown that the kidneys are but slightly responsible, we find that on the contrary the liver is the organ most frequently diseased, and that post-mortem examination shows in toxaemia most striking changes in the liver. Hemorrhagic necrosis of the liver, with multiple thrombosis, is the characteristic lesion of toxaemia and eclampsia in mother and foetus. These lesions strikingly suggest the first stage of acute yellow atrophy. By modern path-

ologists, the hepatic lesions of toxaemia and eclampsia are considered so characteristic as to suggest a diagnosis from the examination of the liver only.

In the toxaemia of pregnancy, the thyroid gland is deficient or altered in activity. Lange has estimated that the gland is enlarged in 81.2 per cent. of pregnant patients. Nicholson has drawn our attention to the deficiency of thyroid secretion in cases of eclampsia. In one of his observations, patients threatened with eclampsia placed upon milk diet were greatly improved, because the milk required but a small percentage of iodothyrin to affect the metabolism of its proteids. These patients eluded the watchfulness of their caretakers and procured pork which they ate secretly. Eclampsia supervened. Hergot reports an interesting case of eclampsia in a Cretin. Bensen draws attention to the fact that after the thyroid gland is removed in cases coming to autopsy, the renal tubules are blocked with colloid substances similar to that found in eclampsia.

In animals in which the thyroid has been removed, pregnancy has been followed by eclampsia with the birth of dead offspring. Surgeons are familiar with the fact that the removal of the entire thyroid may be followed by convulsions in animals or in the human subject. Clinically, patients threatened with eclampsia are benefitted by the administration of thyroid extract.

Abundant evidence exists of the part played by the intestine in the production of toxaemia. This knowledge is so familiar that we need not delay upon this point.

We distinguish, then, in the mother, toxaemia and eclampsia of hepatic origin, of intestinal origin, of thyroid origin and of renal origin. These are named in the order of their importance and frequency.

Our attention has also been called to the fact that the embryo or foetus may be a cause of the toxaemia of pregnancy. While we may believe that the foetus contributes somewhat to the toxines of the mother's blood, we must remember that convulsions do not cease in all cases after delivery, and that the evidence seems to show that one and the same poison affects mother

and child and not that the child originates the poison which destroys the mother. Hitschmann recently described an interesting case of pregnancy at the fifth month. The patient was seized with eclampsia and the uterus was emptied. She recovered. The womb was the size of a seven-month pregnancy, the embryo had died at about the fourth month and a placental mole had formed. In this case the death of the embryo must have been followed by a cessation in the formation of toxines from this source. Eclampsia, however, subsequently occurred. Eclampsia may occur during pregnancy and the woman recover, pregnancy be uninterrupted and a living, healthy child be born. We may then reasonably conclude that toxaemia and eclampsia are not to any great extent of foetal origin. It requires but a moment to observe that the efforts to prove that toxaemia and eclampsia are caused by bacteria have not been successful.

Eclampsia occasionally occurs in groups of cases. Stroganoff in St. Petersburg, Kedarneth-Das in Calcutta, and the staff of the Edinburgh Maternity Hospital all report groups of cases in which toxaemia and eclampsia seem an infectious epidemic. This observation has not been confirmed by others.

The effort to identify chemically the poison of toxaemia and eclampsia has not yet succeeded. Ammonium carbonate, carbamic acid, xanthin, creatin, creatinin, peptones, globulins, leucomaines, ptomaines, acetones and urobilin have all been studied as possible causes of this condition. None of these is proven to cause toxaemia or eclampsia. Some have believed that toxaemia is accompanied by increased excretion of ammonia, while the theory that nitrogen is deficiently excreted has long received attention.

Syncytiolysin, a placental ferment, undoubtedly influences the blood of the mother, and probably has something to do in the causation of eclampsia. Its mode of action consists in causing solution of blood corpuscles, thus favoring the production of thrombi. Extract of human placenta injected into animals cause the animals to perish in spasms and with great prostration. The toxicity of placental extract varies with the maternal condition. In some fatal cases of eclampsia, syn-

cytial tissue has been found growing on the peritoneum and ovaries.

From these considerations, can we deduce knowledge of a practical nature concerning the detection of toxaemia and the prevention and treatment of eclampsia? Remembering that toxaemia is more than renal insufficiency or nephritis, our scrutiny of the patient must go further than the examination of the urine. Sufficiently often the patient must be seen by her physician and her condition noted. The nervous system gives especially valuable indications of toxaemia. Headache, altered secretion and excretion, neuralgia, unusual mental conditions, increased vaso-motor stimulation and high pulse tension, disturbances in the sensory apparatus, all indicate toxaemia. Altered secretions, obstinate constipation, jaundice and signs of disintegration of the blood are of especial importance.

In the treatment of this condition, the details of hygiene must be thoroughly carried out. The diet should be regulated, and indigestible and highly nitrogenous food reduced to a minimum or entirely omitted, and fresh, sound milk substituted. The free use of fruits and green vegetables in season is also indicated. Water taken between meals, before retiring and upon rising is a common prescription often difficult of execution. The avoidance of alcohol and of large quantities of alkaloidal stimuli is of great importance. Fresh air, regular bathing, sufficient sleep, proper clothing and reasonable exercise all are most important. So common are these precautions that they are frequently neglected.

So far as drugs are concerned, laxatives are indicated. In the presence of acute toxaemia, it must be remembered that salines often cause the dissolution of dried faeces and the prompt absorption of faecal matter. To increase the solid excretion of the body, calomel is of decided value. To act as a powerful diuretic and to stimulate some of the necessary processes of nutrition, thyroid extract has proven efficient. No greater mistake can be made than to treat the neuralgia or sleeplessness of toxaemia by the administration of sedatives or narcotics. This is but adding fuel to the flames. What is

needed in these cases is oxygen, purgatives, stimulation of the skin, a selected diet and abundant rest.

In the presence of persistent and increasing toxaemia which does not yield to treatment, the question of the induction of labor naturally arises. It must be kept in mind that the artificial termination of pregnancy often brings with it shock to the mother and in many cases increases her toxaemia. If she be suitably cared for, nature will usually adjust the question of pregnancy by allowing gestation to continue or by bringing about changes in the placenta which will result in the death of the child. This course is safe for the mother, although less prompt than the induction of labor.

Of especial value in preventing serious toxaemia is the use of saline water, and of these Celestin Vichy is of special advantage. In the presence of threatening toxaemia, the free use of normal salt solution by hypodermoclysis or by rectal injection is especially indicated. The use of the hot pack or bath requires caution, for the temporary increase in pulse-tension following the beginning of the bath or pack may induce eclampsia; hence the physician must be prepared to administer veratrum viride hypodermatically should the pack increase the tension of the pulse.

We cannot remember too clearly the fact that in the toxaemia of pregnancy the vital organs of the patient are undergoing extensive degenerative changes. Cloudy swelling and fatty degeneration of the heart muscle, minute hemorrhages in the substance of the liver, spleen and lungs, and serous effusions or inflammations seriously threaten the patient's life. The toxaemic woman is not safe with the termination of pregnancy, for she may pass through eclampsia only to perish from pneumonia, cardiac syncope, pernicious jaundice or general debility. Eclampsia is but a step in the march of the toxaemic process, marking its acutest attack, but not guaranteeing the patient against further disease.

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CASES REPORTED.

BY DR. WALTER DAVIS, WILKES-BARRE, PA.

READ DECEMBER 7, 1904.

It has been my fortune to attend quite a number of interesting but difficult obstetrical cases during the past few months. They have included the delivery of a dwarf with a kyphotic dorsal spine, in which the external pelvic measurements were 25, 23 and 27 centimeters, showing considerable contraction of the pelvis. In this case the feet came first and the child was delivered alive without great difficulty. In another case I found a shoulder presentation with an arm protruding. After trying in vain to return the arm I was able on account of the small size of the child, to hook my fingers in the groin and pulling down on the arm at the same time, to double the body and bring the feet down. The cervix then contracted firmly around the neck, and its dilatation to permit the escape of the head was very difficult. In three other cases of contracted pelvis I assisted in the performance of version. In one of these the premature ossification of the baby's head made its delivery exceedingly difficult. On another woman there was in addition to the contraction, great rigidity of the pelvis because she was having her first baby at forty years of age. In this case there was prolapse of the cord, and finally a complete perineal tear, which extended up the rectal wall nearly to the cervix. In this case salt solution intravenously was necessary for her shocked condition, but she is recovering. There are two cases which have occurred in the past month which I desire to report more fully to-night.

The first is one of extra uterine pregnancy. Mrs. B., aged 23, is the mother of one child of which I delivered her about 4 years ago. In August she had an attack of pain on the right side of the abdomen, with fever to 101, which I diagnosed as a mild case of appendicitis. This cleared up after two days in bed. She was then about her duties for a month when she had another attack. The pain this time was in the centre of the abdomen and there was a slight discharge of blood. This history of irregular menstruation suggesting pregnancy, together

with the paroxysmal pains led me to a diagnosis of threatened abortion. The most puzzling thing was the fact that the uterus showed no signs of dilating. The cervix remained firm and conical. In any other future case of this kind, namely, with symptoms of a threatened abortion in the early months without dilation of the cervix and without anaemia, I think I shall be led to the diagnosis of unruptured tubal pregnancy. After a few days of treatment the pain ceased and she went about her work for two weeks, until the morning of October 26th, when she suddenly had violent pains and symptoms of internal hemorrhage, i. e., extreme pallor and very rapid, feeble pulse. There was some bleeding from the uterus, but the cervix still remained hard and undilated. I then made the diagnosis of extra uterine pregnancy and called Dr. Stewart in consultation, expecting that he would counsel immediate operation. Somewhat to my surprise, he advised waiting for a reaction, and expressed the opinion in which I concurred, that with such a pulse and such extreme anaemia she would not probably survive operation. This advise, I may say, was opposed to the opinion expressed by most text-books on the subject, which urge immediate operation, and state that in most cases the unoperated woman will die inside of twenty-four hours. Nevertheless, I believe it was wise advice. I have seen so many cases successfully operated on after an interval of a week, during which time reaction occurred, that I believe it is often just as important to wait for reaction in these cases as it is to wait for reaction in cases of shock due to severe mine accidents, in which class of cases many lives have been sacrificed by too early operation. Although it seemed unlikely that my patient would rally, she did so. The internal hemorrhage ceased and the pulse became somewhat better, so that I moved her to the hospital the second day after the rupture of the sac and operated the following morning, election day, being assisted by Dr. Stewart. The abdomen was filled with large clots the size of the fist and very adherent to the peritoneum which was busily trying to digest them. The omentum was adherent to the tube and played some part in stopping the bleeding. The position of the foetus, partly within the tube, also played a large part

by pressure in causing this desirable result. After ligating the tube at the uterine cornu and at the pelvic ligament, the tube and its contents were cut away. All loose and accessible clots were removed, the pelvis was washed out by a large amount of saline solution and the abdomen closed in layers without drainage. The condition of the patient during the operation was critical. Normal salt under the breasts was used during a large part of the operation and finally a considerable quantity was injected intravenously. After the operation the patient did well. The wound healed by first intention and the blood rapidly built itself up. A little fever, never over 100, after a week was believed to be due to the absorption of the many small clots which were so adherent that they could not be wiped from the peritoneum. The patient returned home at the end of three weeks. The specimen which I present shows: 1st, a male foetus two to three months old.

2nd, the enlarged tube with an extensive rupture on its convexity.

3rd, the placenta whose size plainly shows why bleeding from it during a few minutes was sufficient to prostrate the patient.

The second case is one of hydrocephalus. Mrs. B., aged . This was the second labor. The first, two years ago, having been normal. The first child has a well-developed head and body. On December 1st, 1904, she fell in labor in the afternoon. At 11 P. M. examination showed the cervix dilated enough to admit two fingers. Pains were frequent but not very strong. At 3 A. M. she slept for three hours, after which I found the cervix had closed again. The pains continued all through the following day, being weak and ineffectual in dilating the cervix. This was really because the uterus was so full that the muscles were completely distended and could not contract. I measured the pelvis and found it normal in size. The abdominal tumor seemed to be very large, so that I suggested twins. It extended to the ribs, enough to cause some dyspnoea. On palpation the whole upper part of the uterus felt unusually hard and well filled and I could outline a very large rounded mass lying in the whole upper and right side of the uterus. On the left the resistance usually caused by the child's back was absent. I thought that the back was probably to the right side. This rounded mass which I mistook for the back was of course the head, and no doubt, with the pelvimeter, I could have estimated its extent had the diagnosis occurred to me. On Friday night at 12 P. M. the waters broke and the breech presented.

I grasped a foot and delivered to the shoulders, which I found difficult to deliver on account of the head being so high that the shoulders could scarcely reach to the vulva. The arms having been born I used the various methods of delivering the after-coming head, without being able to cause it to engage. It was evident then that the head must either be exceedingly large or in an impossible position. I then called Dr. Roe, who also tried the various methods for extracting the head, without success. The deeper insertion of his hand to palpate the head revealed the cystic-feel and the beginning of the great dome. I was then able to puncture the head: 1st, with a curved scissors and then with the perforator, while Dr. Roe squeezed out the fluid from the head by pressure through the abdominal walls. This resulted in such a reduction of its size that further delivery was easy. The head measures twenty-one inches in circumference, and held, in addition to the brain, over half a gallon of fluid. The brain was very small, being flattened by the pressure of the fluid. The convolutions were practically absent. The dura and membranes were very thin. The body of the child, as you can see in the specimen, is well developed and not deformed, nor is there any evidence of a specific condition. The mother is getting along well.

Remarks. Hydrocephalus occurred sixteen times in 12,055 births. In another series fifteen times in 43,555 births in France. So, while it is not exceedingly rare, any one might have a large practice and never see a case. I should like to have reports of any cases which have occurred in this vicinity. As to the mortality in 159 cases there were 38 maternal deaths, twenty of which were from rupture of the uterus, which usually occurs as a result of attempting to use forceps. As to diagnosis, Hirst says: Hydrocephalus should always be suspected if the head in labor remains above the brim, although the pelvis is normal in size, and no good reason can be found for the failure of engagement.

DISCUSSION.

DR. ROGERS had seen one case of hydrocephalus with Dr. Weida.

DR. FELL reported having seen a case of hydrocephalus; forceps were used and the mother was badly torn. He believed that when diagnosis could be made, Caesarian section should be performed in these cases. He also believed that this operation should be used in those cases of rigid cervix, where manual dilatation was a prolonged and difficult operation.

TWO CASES OF STRAMONIUM POISONING.

BY DR. H. B. WILCOX, KINGSTON, PA.

READ DECEMBER 7, 1904.

I have to bring before you this evening two cases of stramonium poisoning. As you all know, the Datura Stramonium, Jamestown weed, or "thorn apple" is very abundant throughout Wyoming Valley, and on account of its poisonous properties, and also on account of its usefulness in medicine, it may be of some interest to give a brief description of the plant.

There are two varieties of this species of Datura, one with a green stem and white flowers, the other with a dark reddish stem minutely dotted with green and purplish flowers striped with deep purple on the inside. The plant is an annal, of rank and vigorous growth, usually about three feet high, but in rich soil sometimes six feet or more. The stem is erect, smooth, simple below, dividing in pairs above with numerous spreading branches. The leaves, which stand on short, round foot-stalks in the forks of the stem, are five or six inches long, of an ovate-triangular form, irregularly situated and toothed at the edges, unequal at the base, dark green on the upper surface and pale beneath.

The appearance and odor of the large trumpet-shaped flowers are so familiar to you that a description is unnecessary. The fruit consists of a large roundish-ovate, four-valved, four-celled capsules thickly covered with sharp spines and containing numerous seeds attached to a longitudinal receptacle in the centre of each cell. It opens at the summit.

In the United States it is found everywhere in the vicinity of cultivation, frequenting dung-heaps, the road-sides, and commons, and other places where a rank soil is created by the deposited refuse of towns and villages.

The first case was a Lithuanian child, five years old. The parents stated that the first symptoms to attract their attention was drowsiness and nausea which prompted them to give a dose of castor oil, hoping to relieve the child by evacuating the bowels. Their opinion was that he had eaten green apples.

But on account of this remedy failing to take effect, and noticing that the case was rapidly growing more serious, a physician was summoned two hours later. On my arrival, I found the child wildly delirious, with pupils dilated, throat, mouth and skin dry, slight fever, respiration rapid, pulse rapid and hard or corded, and a peculiar skin rash resembling scarlet rash. It was evident that a case of poisoning, probably belladonna poisoning, was to be dealt with, but being unable to get a clear history I withheld a diagnosis and simply gave an emetic and nerve sedatives (chloral and bromides). Improvement followed the treatment, but was only temporary, because within an hour the child had relapsed into its former condition. I then gave morphia gr. 1-16 hypodermatically and repeated the same dose in half an hour, which ameliorated most of the symptoms, especially the delirium. This effect lasted only four hours, leaving the child in the same struggling condition as at first. By this time, the case had become so desperate that it was agreed to call a consultant.

Dr. Kunkle came to my assistance and we immediately gave an enema of two quarts of soap suds and water. This was retained, so another was given which was expelled with some difficulty, after forcibly dilating the sphincter ani. In the rejected material there was found a complete half capsule and some smaller fragments of the stramonium plant. The discovery of portions of the plant was enough to settle the question as to diagnosis.

Immediately following the last examination a fourth dose of morphia gr. 1-16 was given sub-cutaneously, the patient showed signs promptly of improvement which finally resulted in complete recovery within eight hours.

About one year later I met with another case, a Slavish child, two years old, presenting nearly the same symptoms as the one just cited. The delirium was not so marked as in the former case, but there were dryness of the throat, mouth and skin, dilated pupils, scarlet rash, rapid respiration, rapid and hard pulse. A snap diagnosis was made and to verify this a search was made for the weed. It was found within a few feet of the

house. After explaining to the parents the probable cause of the trouble, they admitted having seen the child picking at the plant during the day.

The treatment in this case was not so energetic as in the first. A calomel purge and morphia gr. 1-16 hypodermatically were sufficient to effect a cure within a few hours.

In conclusion, I wish to state how remarkable it is that there are so few cases of stramonium poisoning recorded, since the plant is so abundant, especially in and near thickly populated settlements, where the inhabitants are more or less ignorant of its character.

The usefulness of large doses of morphia in the treatment of these cases, I think, is worthy of special mention.

Experiments have shown that morphia is not antagonistic to atropine or daturine, although atropine or daturine is to morphia, but in the cases just reported morphia relieved the symptoms of daturine poisoning.

In the second case there seemed to be undoubtedly great benefit derived from morphia as the delirium and hallucinations subsided almost immediately and remained permanently in abeyance.

EPILEPSY; ITS HISTORY, CAUSE AND TREATMENT.

BY DR. E. L. MEYERS, WILKES-BARRE, PA.

READ DECEMBER 21, 1904.

Epilepsy is a disease that has been known to man and described by him for more than 2,400 years. Reference has been made to this disease in early Greek and Roman literature. Hippocrates, who was born about 460 B. C., described it under the title of "The Sacred Disease," from the idea that Apollo was or pretended to be in epileptic fits just prior to pronouncing his prophesies.

How common epilepsy apparently was among the Romans, and how discriminatingly they observed the different symptoms, is indicated by noting the great number of different titles which they applied to the disease.

They called it morbus major, "the greater disease;" morbus Herculeus, "the strong, the Herculean disease;" morbus convivialis, "the disease of the feast;" morbus caducus, "the falling sickness;" morbus scelestus, "the disease of criminals;" morbus foedis, "the filthy disease;" and thus we might continue to multiply these Roman titles. The French called it "haut mal," "grand mal," the great disease" and "petit mal," "the small disease." The Germans call it "fallsucht."

Especial interest attaches to this subject when we know that men high in the authority of church and state, men of arts and literary genius were afflicted with this malady—Mohammed and St. Paul, and Swedenborg were epileptics. So were Julius Cæsar and Peter the Great, Charles the Fifth and Napoleon, Moliere, Swift and Richelieu, all these were said to have been epileptics—all men of marvellous intellects and indomitable energy.

In referring to his affliction St. Paul says, "There was given to me a thorn in the flesh." There are some authors who attribute Napoleon's defeat at the battle of Waterloo, to repeated attacks of fits during the last day of the battle.

These men were all great men, not because they were epilep-

tics, nor were they epileptics because they were great men, but they were great in spite of this horrible disorder.

But this is a disease of no special class, all classes, the high and the low, the rich and the poor, the white and the black, the old and the young, male and female, none are immune, wherever civilization reigns.

And now what has been accomplished for these unfortunates during these many centuries? There is no literature on record to show that any special interest was taken in these cases for more than 2,000 years, not until about the middle of the nineteenth century, 1847, when France took the initiative, and established an institution for the care and treatment of her epileptics and other mental defectives. In 1867, Germany established Bethel Colony, at Berlefeld, in Westphalia. Commencing with but four patients, they have at present close to the 2,000 mark. This is the largest colony for epileptics in the world, and is said to be in every respect a model for other colonies. Switzerland followed by founding a colony in 1884, and two more in 1886. Then England, in 1888, provided for selected cases. In our own country nothing had been done for the improving of the condition of the epileptic up to this time. In 1887, Dr. Frederick Peterson, of New York, visited Bethel Colony in Germany, and an article which was published in the New York Medical Record in April, 1887, set forth the need of a colony in the state of New York, such as he visited in Germany. As a result, an unusual interest in this subject, was awakened throughout the country. Ohio deserves the honor of having founded the first colony for epileptics in this country, in 1890. New York State holds second place, Craig Colony having been founded in 1894. This is the largest and most complete institution of this kind in the country and second only to Bethel Colony, in Germany. Craig Colony, at Sonyea, N. Y., has about 1,000 patients on a space of ground nearly three miles square, and containing 1,895 acres of land.

Massachusetts, New Jersey, Pennsylvania, Texas, Kansas, and Minnesota have all made provision for their epileptics. In this state, in 1895, a private hospital for epileptics was founded

at Rochester, in Beaver county, by a Lutheran clergyman, and in 1898, another one was founded at Oakburne, Chester county, Pennsylvania. This also is a private institution. In 1902, a bill was passed by the legislature providing for a site for a hospital and colony for epileptics. During the summer of the present year, a site was selected in Chester county. About 300 acres of ground has been purchased with an option on 200 additional acres, making a total of 500 acres. Spratling, of the Craig Colony, believes there ought to be at least one acre for each patient living in the colony. Peterson estimates that there are in the United States, between 140,000 to 150,000 epileptics or one to every 500 population. If this estimate can be relied upon, for even approximate figures, the state of Pennsylvania would hold within its boundaries more than 10,000 epileptics.

In considering the aetiology of this strange affliction, we may group the causes under two heads. 1st. Predisposing, or hereditary, and 2nd, exciting.

Under the head of predisposing causes are found insanity and all the allied nerve disorders—alcoholism, tuberculosis, syphilis, rheumatism, scrofulosis, rickets.

Epilepsy may be transmitted either directly from parent to child or indirectly, *i. e.*, collaterally. That is, a man may have epilepsy, but his children may be entirely free from any such disorder. His brothers and sisters not having epilepsy themselves, yet their children may have the disease.

That alcohol is a very strong predisposing factor is agreed upon by all authorities. In certain wine districts of Russia, where the drink habit has existed for many generations, the proportion of epileptics to the total population is very much greater than in other districts where this beverage is not so freely used.

Heredity plays a more important role in early life, before the twentieth year than in later life, and almost disappears after the fortieth year.

It has been estimated that from twelve per cent. to fourteen per cent. of cases occur before the third year, twenty-five per

cent. under ten years, and forty per cent. between the ages of ten and twenty years. There are special periods in early childhood which seem to be the prime predisposing factors. The two periods of dentition, the first of these beginning about the sixth and eighth month to about eighteenth or twentieth month. During this period, too, gastro-intestinal disorders are not an infrequent cause.

The second period of dentition, extends from the sixth to the tenth year. The percentage of epileptics is augmented during this period by the frequency of the exanthematous and infectious diseases, scarlet fever, measles, whooping-cough, etc. Convulsions occurring during these periods may lead to repeated attacks which may end in epileptic fits. Hemorrhage into the brain at birth, or soon after, from some of the above causes, especially whooping-cough, may cause hemiplegia, paraplegia.

Among the principal causes are foreign bodies in the eye, or eye strain, phymosis, stricture of the urethra, intestinal worms, hemorrhoids, disordered menstruation, menopause, etc. Emotional shock may cause fits in those who are of a nervous temperament.

As to the theories of the pathological lesions, they are so numerous and many of them so ill-founded and unscientific that we hesitate to accept them. A few seem plausible, but bear further scientific investigation.

It is not my purpose to discuss nor even to enumerate these many opinions. This feature of the disease is no doubt the least understood of the many mysterious conditions found in epilepsy.

A certain amount of nerve energy is constantly supplied by the body and an equal amount is expended. As long as the nerve equilibrium is maintained the nervous system will remain in a normal state. When the balance is lost, pathological conditions manifest themselves.

Prout and Clark's theory seems most plausible; that epilepsy probably originates from the sensory cells imbedded in the cortex of the brain, and when these cells become diseased both mo-

tor or sensory phenomena may be exhibited. Cerebral disease is attended and followed by profound and diffuse cortical degenerations. That these morbid changes take place in the neucleii of the sensory cells in the cortex, which is a sensory phenomenon with a motor manifestation. The pathology rests with a variety of toxic or autotoxic elements not yet isolated or definitely determined.

In gross pathology, thickening of the whole skull or only in local areas, especially in the occipital regions has been observed. The dura has been found adherent, tuberous sclerosis in the cortex and diffuse sclerosis in the convolutions. These changes take place incident to repeated vascular congestions, due to attacks of fits. Minute hemorrhages and more or less extensive cerebral ecchymoses merely indicate the recent paroxysms. An increased amount of cerebro-spinal fluid has been noted in some cases.

Says one author: "It must be admitted that at present the most careful search fails in many cases to detect the slightest histological changes known to be morbid. This is only another way of stating our ignorance of certain pathological processes and the limitations of present research." Until we receive more light on this subject from the standpoint of the chemistry of both the physiologic and the pathologic state of the body, we no doubt shall continue to theorize and much of the treatment, as now, will be empirical.

In about fifty per cent. of the cases, prodromal symptoms (epileptic aura), precede an attack. These aura may be of a sensory, psychic, or motor nature.

The special senses are most frequently effected; the vision becomes blurred, flashes of light, or different colors may appear in rapid succession, optical illusions, animals, people and other objects, magnified or diminished in size. Peculiar sounds are described by the patients, roaring, buzzing and wave-like sounds in the ears.

Disagreeable tastes, bitter or metallic, unusual odors, a gnawing, burning sensation in the region of the epigastrium,

a full, choking sensation in the throat. The globus hystericus rising in the throat, is the most common of the sensory aura.

The most frequent form assumed by the psychical aura is the sudden rapid flow of thought or imagination. Sometimes this may be preceded by confused ideas with different memory pictures appearing momentarily in succession. These are mostly of fear. The desire to run or jump, originating in some member of the body, usually the thumb, or a certain toe. These aura are of a motor origin.

The prodromal stage usually lasts for a few seconds or minutes, but may last a half hour before the attack comes on.

A seizure may be complete, grand mal, or incomplete "petit mal." In an attack, whether preceded by an aura or not, the patient may utter a cry, a shriek or groan, suddenly fall forward, backward or to the side. Some patients strike the same part of the body every time. The first stage sets in with tonic convulsions, the face is pale, eyes rolled back in their sockets and fixed, pupils usually dilated, the tongue often caught between the teeth, head drawn to one side, the fore-arms flexed hard against the arm, the fingers clenched, the thumb over or under the fingers, the legs strongly flexed on the thighs, knees separated, feet turned in. At this stage, the contents of the bladder or rectum may be expelled. The vasculer tension is extreme. In a few seconds, the spasms become clonic, the face now becomes cyanotic, breathing heavy and accelerated, pulse usually more rapid, temperature may be slightly elevated. Frothing at the mouth, frequently mixed with blood if the tongue has been lacerated by being caught between the teeth. After a varying period of a few minutes to a half hour, if the patient survives, he passes into a period of stertor.

Still unconscious, profuse perspiration may now set in. Shortly consciousness may be regained or he may fall into a deep sleep usually waking with a severe headache, complaining of feeling tired and exhausted. These attacks may come at any time, day or night, the majority of the more severe attacks are nocturnal after midnight. The lives of these patients are at all times fraught with great danger. They are constantly

walking in the shadow of death. Accidents, such as burns, scalds, fractures, dislocations, suffocation, drowning—these are not uncommon experiences for these unfortunates.

Incomplete attacks, "petit mal," present seizures not unlike the symptoms of the grand mal type, although the symptoms are less varied and the attacks less severe. It is frequently the case that an attack is aborted, at times only a momentary loss or disturbance of consciousness.

These attacks are known to the lay people as spells, attacks of dizziness, faintings, turns. As a rule, the mental faculties are more disturbed; there is less suffering after a seizure has passed off.

In psychic epilepsy there are a great variety of mental phenomena. There are no such complications of manifestations as in the other two forms. The conditions are entirely a disturbance of the mind. The patient may have sudden and spontaneous out-bursts, which may be dangerous and destructive to others near him. On the other hand he may be perfectly calm so that nothing unusual would be suspected but for his erratic doings. He may take long trips lasting for several days or weeks. During this automatic period the patient will conform naturally to his surroundings. He may even transact business, keep a diary of his day's experience, if this has been his habit previously, and record, quite accurately, all his doings of which he subsequently has little or no knowledge. The symptoms are much lighter than those of either of the other two classes already mentioned. Yet it has happened that such attacks have proved fatal. And it has been wondered at that the outcome could end so seriously when the symptoms were so very light. This form of the disease is quite distinct from the other two forms and is even less understood.

Any one of these three types of the disease may be followed by the status epilepticus, which is the maximum development of epilepsy, in which one paroxysm follows so closely upon the other that the stages of coma and exhaustion are continuous between attacks. There may be three or four attacks in one day. The convulsive period may continue for a few hours or

several days. They may be only a few minutes apart so that the patient may have a hundred or more attacks in a single day. The pulse and respirations are increased. Temperature elevated to one hundred and four or one hundred and six degrees. "These accompaniments are the indices to the degree of exhaustion and fatality," says Spratling. About twenty-four per cent. die from a single fit, ten per cent. from some form of organic heart trouble, twenty-four per cent. as the result of diseases of the lungs, principally tuberculosis, and twenty-six per cent. from all other causes. These are figures of Dr. Daniel Lewis, of New York City.

According to the United States Census Bureau for the census year of 1900, there were deaths from epilepsy as follows: 1,915 males and 1,411 females, or a total of 3,326. There were 504 or thirty-five per cent. more males than females. About three per cent. of all deaths, according to these statistics, are due to epilepsy.

The natural tendency of epileptics is mental impairment, feeble-mindedness, idiocy, imbecility, insanity and finally dementia.

Now what are the chances of cure in these cases? There is no disease in which the prognosis is so difficult to determine, as under past conditions it has been impossible to follow these cases in the various stages.

If the disease comes on late in life and is seen early and treatment instituted intelligently, it is possible to check the disease, or if with those who have their first attacks between the fifteenth and twentieth year, treatment is continued sufficiently long, the disease may be arrested in from two to ten years—these are the most favorable cases for cure.

If epilepsy develops before the tenth year the outlook for an effective cure is not so bright.

Spratling says about five per cent. of all cases are curable, if the attacks do not occur within a period of two or three years.

Turner, an English authority, gives it as his opinion that if patients are free from attacks for nine years, ten per cent. are

curable. Cases have been cited where the attacks did not recur for fifteen or twenty years, or even for a longer time.

In the treatment of epilepsy every possible source of the trouble should be thoroughly sought out, and the cause having been located, should be removed. All these cases need to be treated on a broad comprehensive plan. Treat the individual, the underlying cause and the disease simultaneously, as a unit, dilate strictures, break up old adhesions, remove the cause of direct and reflex irritation, avoid constipation.

Hygiene and diet should be an important factor Certain articles of food should be forbidden, among these are cabbage, cucumbers, pastry and all condiments, certain kinds of berries, such as raspberries, strawberries, etc., these have a tendency to cause constipation. Not only should the kind and quality but the quantity as well be limited, these cases as a rule are great eaters. Meat diet should be restricted to once a day, preferably to the mid-day meal, of the most digestible kind and in moderate quantity. Frequent bathing, well ventilated sleeping rooms, considerable exercise and in suitable cases, some form of occupation, even hard manual labor has been advocated. The hours not to exceed four to five hours daily.

Of the drug treatment, the bromides still easily hold first place, although many are declaring against their use. There is, no doubt, but that the abuse has been great on account of the routine administration, regardless of other existing conditions underlying and causing the trouble. One author says, "The routine treatment with bromides is not only poor therapy, but actually culpable negligence." This drug should be used to control the spasms and not constantly. It is too depressing to the heart, dulls the mental faculties and has a tendency to irritate the stomach.

If the case is of the nocturnal type, the proper time to give bromides in full doses, is at the time of retiring. After the attacks are controlled, the doses should be reduced or the drug withdrawn entirely.

A course of opium and bromides has been recommended in old cases which do not yield to other treatment. Opium given

first for a period of about six weeks, the doses small at first and gradually increased until fifteen grains are taken daily, then this drug is withheld and a course of bromides is begun, giving from one hundred and twenty to one hundred and thirty grains daily.

This course is continued for a period of two months. During the exhaustive stage of coma, supportive measures for the heart and respiratory centres should be employed. Strychnine, whiskey and digitalis, drastic cathartics and venesection in plethoric cases. Faridization of the phrenic nerves; for delirium, hyoscine and morphine in combination; hot milk and hot baths for insomnia.

Other drugs recommended are atropine, amyl nitrite, nitroglycerine, asafoetida, ergotine, chloral, ether and chloroform. The last named drug should be employed only when death is imminent from convulsions. Chloral is a much safer drug to be used during the convulsive stage.

Colony life is beyond a doubt the most practical and scientific way to care for these patients. In this way they can constantly be observed. Habits, diet, vices, etc., which form so important a part of the treatment, can be restricted.

Self-discipline is considered no small factor in these cases, for the fickleness, ill-temper and destructiveness of the epileptic is proverbial.

In conclusion, no plan for the care and treatment of epileptics seems quite so rational as that of segregating them into colonies.

These are cases which should appeal to every physician, in fact, everyone sympathetic and charitably disposed. It should be our duty to exercise our influence in every possible channel to alleviate the burdens of this afflicted class of our fellow-beings.

REPORT OF THE LIBRARY COMMITTEE OF THE LUZERNE COUNTY MEDICAL SOCIETY.

FOR THE YEAR ENDING DECEMBER 31, 1904.

Your Library Committee respectfully report that there have been added to our library during the year 1904 four hundred and nine volumes, and that the total number of bound volumes on our shelves to date is 3,408.

The 409 volumes added were nearly all presented to the library, though a number of them were unbound periodicals which were bound at the expense of our society. As usual, we received a large donation from the New York Academy of Medicine, which headed the list with 79 volumes. We have received also very generous contributions from other medical libraries, especially from Kings County Medical Society of Brooklyn, N. Y., The Rhode Island Medical Society, The Ramsey County Medical Society, St. Paul, Minn., and the University College Medical Library of Bristol, England.

We also received a donation of 18 bound volumes from the American Gynecological Society. The largest individual contributor was Dr. Guy Hinsdale of Hot Surings, Va., formerly of Philadelphia.

We have received more generous donations from members of our society during the present year than ever before; the following having contributed: Drs. Shoemaker, Fell, Long, J. Harris Jones, Gibson, Smith, Davis, Corss, Guthrie, Buckman, Miner and Taylor.

The expenses of the library have been greater, as shown by the treasurer's report, than for any previous years. A large portion of this is for binding of periodicals, which includes also a considerable portion for work done in 1903, the bill for which was not presented until 1904. In addition to this we have purchased a catalogue case and cards and have added additional shelving. But few new books have been purchased, only about thirty dollars having been spent for this purpose. There were no requests from members for new books. All of the books

of the library have been catalogued at very little expense to the society. In preparing the list of books for cataloguing, the committee has been greatly aided by Dr. W. W. Lazarus, who kindly volunteered his services for this work. We think the library has been used more during the past year than previously, both in its current periodicals and bound volumes, though, as we do not have a librarian in constant attendance, no record is kept of the number of visits.

We have been able to help others as well as to receive help and have given of our duplicates, 140 volumes beside odd numbers of Journals, to other libraries during the year. The money appropriated by the society for the purchase of old periodicals has not been expended, that is, but very little of it, as it was thought better to await the reorganization of the Library Exchange from which we might hope to obtain certain of our missing numbers without expense. A list of periodicals on file is herewith appended marked A. A list of our bound periodicals and transactions with wants accompanying is also appended marked B. We suggest that these be published in the current volume of our transactions.

LEWIS H. TAYLOR,
MARIS GIBSON,
J. I. ROE,
Committee.

A.

CURRENT PERIODICALS OF THE LUZERNE COUNTY MEDICAL SOCIETY LIBRARY.

The Albany Medical Annals.
Alumni Register (Univ. of Penna.).
The American Journal of the Medical Sciences.
American Medicine.
Annals of Opthalmology.
Annals of Otology, Rhinology, and Laryngology.
Archives of Pediatrics.
Brooklyn Medical Journal.
Bulletin of the American Academy of Medicine.
Bulletin of the Johns Hopkins Hospital.
The Cincinnati Lancet-Clinic.
The Cleveland Medical Journal.
The Colorado Medicine.
The Columbus Medical Journal.
The Detroit Medical Journal.
The Journal of the American Medical Association.
Journal of the Military Surgeons of the U. S.
The Kansas City Medical Index-Lancet.
Maryland Medical Journal.
The Medical News.
The Medical Record.
The Medical and Surgical Monitor.
Modern Medicine.
New York Medical Journal and Phila. Medical Journal.
The New York State Journal of Medicine.
The Occidental Medical Times.
Penna. Medical Journal.
Proceedings of the Pathological Society of Philadelphia.
The Providence Medical Journal.
The St. Paul Medical Journal.
The Therapeutic Gazette.
University of Pennsylvania Bulletin.
Virginia Medical Semi-Monthly.
The Western Medical Review.

B.

LUZERNE COUNTY MEDICAL SOCIETY LIBRARY.

LIST OF PERIODICALS. ALSO OF NUMBERS NEEDED TO COMPLETE OUR FILES.

American Journal of Medical Sciences, 1827, complete.
American Journal of Obstetrics, 1869, complete.
American Journal of Syphilography and Dermatology, 1870-4, ended, complete.
American Medicine, complete.
American Medical Monthly, 1854, complete.
American Practitioner, Vols. 1-30; want Vol. 31.
Alumni Register, University of Pennsylvania; want Vols. 1, 2, 3, 4; No. 5 of Vol. 5; No. 4, of Vol. 7.
American Medical Recorder, Vol. 2, 1818; want all others.
American Practitioner and News; want all.
American Medical Times, 1860-4, Vols. 1-9, complete.
Annals of Ophthalmology and Otology, complete.
Annals of Ophthalmology, complete.
Annals of Otology, complete.
Annals of Anatomy and Surgery (1878), complete.
Annals of Surgery, continuation of Annals of Anatomy and Surgery, Vols. 1-10, 14-16, 19, 21-25; want Vol. 11, entire; Vol. 12, No. 1, 2, 3, 4, 5; Vol. 13 entire; Vol. 17, No. 4, April, 1893; Vol. 18, entire; Vol. 20, No. 1, July, 1894.
Archives of Larynology; want Vols. 2, 3, 4.
Archives of Gynecology, Berlin, 1874, Vols. 1-38; want all after Vol. 38.
Archives of Medicine (Seguin), complete.
Archives of Pediatrics; want Vols. 1, 2, 4, 5, 7, and No. 12 of Vol. 8.
Baltimore Medical and Surgical Journal and Review, want Vol. 2.
Berliner Klinische Wochenschrift; want Vols. 1-13; also 24 27, 28, and all after Vol. 31 (1894).
Boston Medical and Surgical Journal (1828); want Vols. 30, 42, 43, 51, 54, 59, 60, 61, 62, 64, 73, 86, 124, 125, 129, 134, 139, 140, 141, 142, 143, 144, 145.
Braithwaites Retrospect, Vols. 1-93.
British and Foreign Medical Review, 1836-47, complete.
British and Foreign Medico-Chirugical Review (Ended in 1877); want Vol. 46; also latter half of 1870, all of 1871 and 1872, and Vol. 59.
Brooklyn Medical Journal, 1888, complete.
Compendium of Medical Science, 1874, 1876-1880, 1883-4.

Cleveland Medical Journal, 1902.

Doublin Medical Journal (1832-1845); want Vol. 18; also Vols. 25-28, inclusive. Continued as Dublin Quarterly Journal (1846-1876); want Vols. 22, 24-30, inclusive; 32-39, inclusive. Continued as Dublin Journal Medical Sciences; want Vols. 55-62, inclusive; 75-80, inclusive; 82-87, inclusive; 89, 92-96, 98, and all after 104.

Edinburgh Medical and Surgical Journal, continued as Edinburgh Medical Journal; want Vols. 6, 20, 41, 43, 45, 46, 47 48, 49, 50, 53, 54; also, 2nd half of 1841,1855, inclusive; also, 1856, January and March; 1858, 1859, 1861, all; 1862, January to June, inclusive; 1863, February, March, April, May, June; 1864, July to December, inclusive; 1865, September and October; 1867, July, August and September; 1868, September; 1875, May; 1880, February, April, July, November, December; 1885, all; 1886, January to June; and all after 1897.

Half Yearly Abstract Medical Sciences, 1868, 1870, 1872.

Index Medicus, complete.

Internat. Clinics; want all after 1895.

Internat. Medical Magazine, want Vol. 7, No. 4, 5, 6, 7.

Johns Hopkins Hospital Bulletin, complete.

Journal of the American Medical Association, complete.

Journal Cutaneous and Venereal Diseases; want Vol. 13, January, July, August, November, 1895; Vol. 20, January, February, March, November, December.

Journal Gynecological Society, Boston, 1869; want all after Vol. 7.

Journal of Materia Medica; want all except Vols. 15, 16, 17, 18.

Journal Association of Military Surgeons; want all except Vols. 10, 11, 12, 13.

Journal of Nervous and Mental Diseases; want Vols. 1-11, inclusive; Vol 12, No. 9, 10 (1887); Vols. 22, 23.

Lancet, London, want all of 1890, 1895, 1896, 1897.

Laryngoscope, want Vol. 1, No. 1, 3, 4, 5, 6; Vol. 2, No. 1, 2, 3, 4, 5; Vol. 3, No. 3, 5; Vol. 4, No. 1.

Lehigh Valley Medical Magazine (1889-1901), complete, ended.

Louisville Medical News; want Vols. 5, 6, 19, 20.

Medical Annual (Treat); want all preceding 1889.

Medical Brief; want all except 5, 6, 7, 8.

Medical Bulletin; want all except Vols. 3, 6, 7.

Medico-Chirugical Review, new series, 1825-1847, complete, want old series, Vols. 1-3 (1820-1824).

Medical Chronicle, Manchester, England, 1884; want Vols. 6-16, inclusive; Vol. 17, No. 1, 2, 3, October, November, December, 1892; Vol. 19, No. 3, 4, 5, 6, December, 1893, January, February, March, 1894; Vols. 20-30, inclusive; Vol. 34, No. 5, August, 1901; Vol. 35, No. 3, 4, 5, 6, December, 1901; April, May, June, July, August, 1902; Vol. 26, No. 1, 2, 3, 4, 5, April, May, June, July, August 1899.

Medical Museum (1805-1811), complete.

Medical News, continuation of Medical News and Library, 1843; want Vols. 1-9 of Medical News and Library.

Medical Press and Circular, London, want all preceding 1878 and all after 1888.

Medical Record, N. Y., complete.

Medical Repository, Philadelphia, 1797-1824, want Hexade 3, No. 1 and 2, 1811.

Medical and Surgical Reporter, N. S.; want Vols. 59, 64, 65, 66, 68, 70, 71, 73, 74, 75, 77.

Medical Times, Philadelphia; want all after Vol. 17 (1867).

Monthly Journal of Medicine, 1823-1825; want Vols. 2-6.

New England Journal of Medicine and Surgery (1812-1827), complete.

New England Medical Monthly, Bridgeport, Conn.; want Vols. 1, 2, 3, and all after 6.

New Orleans Medical and Surgical Journal (1844); want Vol. 7, No. 3, November, 1850; Vols. 8-11, inclusive; new series began in 1873; want Vol. 5; Vol. 10, No. 4, October, 1882; Vol. 11, No. 4, 5, 7, 8, 11, 12, October, November, 1883, January, February, May, June, 1884; Vol. 15, Nos. 1, 3, 4, July, August, September, October, 1887; Vol. 16, Nos. 1, 3, 5, 7, 8, 9, 10, 11, September, November, 1888, January, February, March, April, May, 1889; Vol. 18, Nos. 7 and 9, January and March, 1891; Vol. 19, Nos. 2 and 3, August and September, 1891; all after Vol. 19.

New Remedies; want Vol. 4, and all after 12.

New York Journal of Medicine and Collateral Sciences (1843-1860), complete.

New York Journal of Medicine and Surgery (1839-1841), complete.

New York Medical Journal (quarterly), 1830-1831, complete.

New York Medical Journal, 1865, complete.

New York Medical and Physical Journal, 1822-1830; want Vols. 7 and 8.

New York Medical Times, 1851-1856; want Vol. 3, 1854.

New York State Journal of Medicine, 1901, complete.
North American Archives of Medical and Surgical Science, continuation of the Baltimore Medical and Surgical Journal; want Vol. 1 and 2 (1834-1835).
North American Medical and Surgical Journal (1826-1831), complete.
Obstetrical Journal of Great Britain and Ireland; want all after 4.
Opthalmic Record; want Vol. 1, No. 2.
Pennsylvania Medical Journal, complete.
Philadelphia Medical and Physical Journal, Vol. 1, 1805; want all others.
Philadelphia Medical Museum, complete.
Polyclinic, Pheladelphia; want all except 4 and 5.
Practitioner, London, 1868; want all except 2, 4, 6, 7, 12 and 52.
Quarterly Journal of Psychological Medicine; want all after Vol. 6.
Refractionist, Boston, 1895, 1, 2; want all others.
Revue des Sciences Medicales, Vols. 31-34, 37-41, 43-52; want all others.
Railway Surgeon; want Vol. 6.
Saint Paul Medical Journal, 1899, complete.
Sanatarian, The, April, 1873, want all after Vol. 6.
Southern California Practitioner; want Vols. 1-7, and all after Vol. 16; Vol. 17; want February and May, 1902.
Therapeutic Gazette, Detroit; want Vols. 1, 2 and 3.
University Medical Magazine, complete.
University of Pennsylvania Bulletin, complete.
Virginia Medical and Surgical Journal (1853), in 1856 united with Stethoscope to form Virginia Medical Journal; want Vol. 7.
Virginia Medical Monthly, Richmond, 1874, complete.
Virginia Medical Semi-Monthly, complete to 1904.
Western Journal Medical and Physical Sciences (Drake), title of Vol. 1, was Western Medical and Physical Journal, 1828; want Vols. 1-3; also, 10, 11, 12.
Western Journal of Medicine and Surgery, 1840-1855, four series; want Vols. 2, 3, 4, of First Series; Vols. 2, 3, 4, 5, 6, of the Second Series; Vols. 1, 2, 3, 4, of the Fourth Series.
Western Journal of Medicine (Parvin); want Vol. 1, called Cincinnati Journal of Medicine, 1866.
Western Lancet, Cincinnati, (1842-1857), complete.

BOARDS OF HEALTH, HOSPITAL REPORTS AND TRANSACTIONS.

BOARDS OF HEALTH.

American Public Health Association, 1 (1873), 4 (1877-1888).
City of Chicago, 1892-1896, inclusive.
Massachusetts, 2-11, inclusive; want Vol. 1, and all after Vol. 2.
New York City, Vols. 1-6 (1871-1875), 1890 (15), 1895.
New York State; have 5. 1885; 13, 1893; 15, 1895; 17, 1897.
Pennsylvania State; want 1885 and 1892.
State of New Jersey; have 1899.

HOSPITAL REPORTS.

Boston City Hospital, 6-14, inclusive.
Childrens', Boston, 1895.
Dublin Hospital Reports (1817), 1, 2, 3, 5.
Guy's Hospital Reports, 1, 2, 3, 5, 6, 15.
Johns Hopkins, 2, 3, 4, 9; want Vol. 1, 5, 6, 7, 8, 10.
London Hospital Clinical Lect. and Rep. (1864), 1, 2, 3, 4.
Marine Hospital, '73, '74, '75, '87, '89, '91, '93, '97, '98, 1900, '01, '02.
Mt. Sinai, N. Y., Vol. 1, 1888.
Ophthalmic Hospital, London, 1, 4, 5, 7, 9; want all others.
Pennsylvania Hospital, Philadelphia, 1, 2 (1868).
Philadelphia Hospital, 5.
Presbyterian Hospital, New York, 1, 2, 3, 5.
St. Bartholomew, 1-32, inclusive.
St. Georges, 1-10; want all others.
St. Thomas, London, N. S., 2, 5, 6, 11, 12, 13, 14, 19.

TRANSACTIONS.

Alumni of Bellevue Hospital, 1897-1898, 1898-1899.
American Climatological Association, 2, 4, 6-19, inclusive; want 1, 3 and 5.
American Dermatological Association, 1900, 1901, 1902, 1903.
American Gynecological Society, 1-16, 18-20, 25-27; want 17, 21, 22, 23, 24, 28, 29.
American Laryngological Association, 4-15, 17-25; want 1, 2, 3, 16.

American Medical Association, complete.
American Pediatric Society, 2, 3.
American Roentgen Ray Society, 1903, 1904.
American Surgical Association; want Vol. 1, also 5-16, inclusive.
Association of American Physicians, 3, 6.
Associated Phvsicians Long Island, 3, 4.
Clinical Society of London; want 1-4, inclusive, 6, 7, 13, 14, 20, 21, 22.
College of Physicians and Surgeons, Philadelphia, 3d Series complete.
Colorado State Medical Society, 25, 26, 27, 30.
Congress of American Physicians and Surgeons, complete.
Homoepathic Medical Society of State of N. Y., 1870.
International Medical Congress, 1876, 1881, 1887; want all others.
London Obstetric Society, have Vols. 1-35; want all after 1893.
Luzerne County Medical Society, complete.
Massachusetts Medical Society, 1902-1903.
Medical Society State of California, Vol. 30 (1900).
Medical Society State of New York; want 1838-1839, 1844-1846, 1850, 1853-1854, 1856-1857.
Medical Society State of Pennsylvania, complete.
Medico-Chirugical Trans., London (1809-1890); want Vols. 67, 68, 70, 71, 72 and all after 73 (1890).
Minnesota State Medical Society, 19, 21, 23-31, inclusive, 33, 34; want all others.
Missouri State Medical Society, 1903.
Mississippi Valley, 3 (1901).
Nebraska State Medical Society, 1902.
New York State Medical Association, complete.
New York Academy of Medicine, 2nd Series, Vol. 1-11.
New York Pathological Society Transactions, Vols. 1, 2, 3; Proceedings 1888, '91, '94, '96, '97-'98, '99-'00.
New York State Commission of Lunacy, have 1890-1898, inclusive.
North Carolina Medical Society, 1898.
Ohio State Medical, 1901-1902.
Pan American Medical Congress, 1898, Vols. 1, 2.
Philadelphia County Medical Society, 1, 2, 4, 17.
Philadelphia Pathological Society, Vol. 18, and N. S. Proceedings, complete.

IN MEMORIAM.

Reports of the Committees appointed to take action in regard to the deaths of Drs. John S. Hileman and Harry Hakes.

DR. JOHN S. HILEMAN.

Dr. John S. Hileman, eldest son of Capt. Jos. Hileman, was born in Pittston, Pa., on December 12, 1863. He died in West Pittston on Saturday, August 6, 1904.

He came of a family well known in the history of Wyoming Valley, and his own life, spent in and about the place of his birth, though brief, was such as to detract nothing from the unblemished reputation of his ancestry.

Very early in childhood he evinced traits of character that gave promise of a life of industry, usefulness and honorable achievements. Of an amiable disposition, he attracted a wide circle of friends, among whom are numbered many people of prominence in the community. Always of a studious nature he ranked among the first and best pupils in the common and preparatory schools and in college. He was a graduate of West Pittston High School, class of 1881, and later attended Lehigh University for a period of two years, when, having decided to pursue the study of medicine, he entered the office of his cousin, Dr. Heffner, of Ohio, where he studied one year. In 1885 he entered the University of Pennsylvania and graduated from the medical department in the year 1889. He then took up the active practice of medicine in his native city, Pittston, where he practiced the profession of Physician and Surgeon with eminent success until the time of his death. In 1894 Dr. Hileman was united in marriage to Miss Lucy Chumard, of Carbondale, Pa., who with two children, Alice and Joseph, survive him.

It is said that his home life was ideal in the elements of love, confidence, faithfulness and contentment. His highest conception of duty and pleasure was to supply the wants and minister to the welfare of the family dependent upon him for support,

and no task seemed too severe and no self-sacrifice too great if necessary, to the accomplishment of this end.

He took especial pleasure in literature, and as a member of the Chatauqua Circle, has left behind numerous essays and manuscripts that bear evidence of wide research in the realm of letters.

He was an active member of the fraternal Order of Heptasophs, and among this fraternity he was highly esteemed. He was an active member of the Luzerne County Medical Society, and also a member of the staff of physicians of the Pittston Hospital. To his fellow practitioners of medicine he was uniformly kind and courteous, deserving and commanding their esteem and confidence.

West Pittston was his home throughout the period of his professional career, and for a number of years as Secretary of the Board of Health he was prominently before the public. It is not too much to say that for the thorough and efficient service he rendered his home city in the improvement of its sanitary conditions thereby conserving the health of its people, West Pittston owes Dr. Hileman a lasting debt of gratitude.

He was a man of pronounced religious convictions and early embraced the doctrine of the Episcopal Church, his life conforming with marked consistency to the Christian teachings and requirements of this denomination.

He held license as a lay reader and frequently was called upon to conduct church service, a position which by natural inclination and education he seemed peculiarly adapted to. To sum up an estimate of Dr. Hileman, it may be said: that as a son he was an honor to his ancestry, and as a father worthy to be remembered, and his example emulated by his offspring. As a citizen he was loyal to his municipality, his state and his country.

As a professional man he was studious, conscientious, ambitious, competent and successful.

As a man of piety, a multitude of witnesses could testify to the fact that his private life—the life behind the scenes, as it were—ran in strict conformity to his outward profession of

correct Christian living; and thus, having "fought a good fight and kept the faith," we cannot doubt that he has been called from the transient scene of his earthly labors to final rest in "an house not made with hands, eternal in the heavens."

C. W. PREVOST,
C. J. MCFADDEN,
JOHN B. MAHON,
Committee.

DR. HARRY HAKES.*

Dr. Harry Hakes was born at Harpersfield, New York, June 10th, 1825. His father was Lyman Hakes, Sr., who was born in 1788, in Berkshire county, Massachusetts, and married Nancy Dayton, of Watertown, Litchfield county, Connecticut, September 23rd, 1813. Mr. Lyman Hakes, Sr., served in the war of 1812, and was judge in the county in which he lived. His family consisted of eight children, four sons and four daughters; of the sons, Harry was the youngest.

Dr. Harry Hakes, the subject of this sketch, worked on his father's farm in his boyhood days, spending a brief time each winter attending school. He had great taste for study and general reading, and after leaving the farm entered Castleton Medical College in Vermont, from which institution he was graduated an M. D. in 1846.

He opened an office soon after at Davenport Center, New York, where he practiced successfully for three years. In June, 1849, at the age of twenty-four, he married Maria E. Dana, eldest daughter of Anderson Dana, of Wilkes-Barre, Pennsylvania. She died the December following, and the Doctor devoted the year of 1850 to attendance and faithful and effective work in the schools and hospitals of New York City.

He then removed to Nanticoke, Pennsylvania, where he continued the practice of his profession for three years.

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* In preparing the biographical portion of this sketch, we have referred to and quoted from the "Hakes Genealogy," by Dr. Hakes, and "Families of Wyoming Valley," by George B. Kulp, Esq.

In 1854 he visited Europe, and spent another year of study in the medical institutions of London and Paris.

Returning, he married Harriet L. Lape, daughter of Adam and Elizabeth Lape, on August 29th, 1855. He then resumed the practice of medicine, spending a portion of his time in the care and culture of his fine farm in the vicinity of Nanticoke, until the spring of 1857, when he began the study of law in the office of his brother, Lyman, in Wilkes-Barre, Pennsylvania.

Passing the usual examinations, he was admitted to practice on January 25th, 1860. In 1864 he was elected a member of the Legislature on the Democratic ticket, representing Luzerne county. During that term, and the succeeding one to which he was re-elected, he secured an appropriation of $2,500 each year for the Home for Friendless Children. He drafted the bill to prevent persons from carrying concealed deadly weapons, the bill for the extention of the Lehigh Valley Railroad from Wilkes-Barre, Pennsylvania, to Waverly, N. Y., and the bill for the collection of debts against townships, all of which passed the legislature and became laws.

Dr. Hakes was the author of the Hakes Genealogy, published in 1899, and The Discovery of America by Christopher Columbus, published in 1892. He also devoted years of work and study to a book on Theism, which has not been published.

On June 23rd, 1899, Dr. Hakes married his third wife, Clara J. Lape.

In June, 1903, he received the degree of LL.D. from Lafayette College, in recognition of his scholarship and literary ability.

Dr. Hakes left no children, having lost two in their infancy. He died April 20th, 1904, of an apoplectic stroke.

These remarks give some of the facts of his life, but they do not give us Harry Hakes as we knew him, respected him, disputed with him, criticised him, loved him. He was a genial, whole-hearted man, and now that he is no more, we feel that there has gone out from among us a rare personality, one whose like we shall not behold again. He loved his brethren of the medical profession. He rejoiced in their success and never envied any the meed of praise that might come to him.

The cordial greeting that he gave, and the warm grasp of his hand, never concealed a distrustful, or doubting nature. He did not expect everybody to agree with him, and he thought none the less of those who honestly opposed him.

He never believed that our medical society should be a mutual admiration affair, but rather an arena, in which good, honest blows should be received as well as given. How apt he was in discussion of some essay read in our meetings, to give his own views, which were diametrically opposed to the views of the essayist, yet always with a word of commendation and with the best of feeling toward the one whose views he was combatting.

In the volumes of our transactions for the past ten years are many pages in all, of his remarks that came right straight from the heart, and with an earnestness of speech and manner that showed us he believed every word he said.

Of his own contributions to the society, aside from the discussion of the papers of others, only two have been printed—the one on the Nature of Inflammation, in 1895, and that on Quackery, in 1901. Although earnest in manner and positive in speech, he nevertheless recognized the possibility of new discovery making necessary the changing of one's views.

He closed his paper on "Inflammation" with these words: "Mr. President and Gentlemen: I present you this brief paper on a great and important subject. That it is a perfect statement of the nature of inflammation I dare not affirm. As to the criticisms you may bestow upon it, neither myself or you are competent to decide as to their justness, fallibility, or infallibility. The apparent and real truth is, that even at this late day, the theories and the practice for the alleviation or cure of this particular class of disordered actions, is in a decidedly chaotic condition. A hundred theories have been advocated and entertained, one extravagance has followed another, some cases have recovered, and others have died. Every one thinks he has cured some; none will admit that they have damaged some and killed others. I admit that I once had much firmer convictions as to a theory and also as to treatment than I have now. However, I am still unsatisfied and unconvinced that

the most modern treatment is productive of better or equally salutary results as under a rule of practice which I followed with all its imperfections. You, gentlemen, are now in the race, and must run the gauntlet, taking the assaults from right and left, from front and rear, and I can only hope that, as you emerge from the ordeal, you may be awarded a crown of everlasting victory."

How hopeful he was of the future of medicine, and how anxious that the younger men of the profession, of our own society, should do their part in working out the problems before us. In every paper that he read and almost in every lengthy discussion in which he engaged, there was a clarion call to work and service. His essay on "Quackery" will well repay the reading. He closed with these words:

"Your school is the universe, a jurisdiction unhedged by a high-board, or barbed-wire fence. Herein search for unity in the profundity of variety. Strive fearlessly and faithfully to plainly discover the relations of the utmost molecule or atom until you find the results in the lowest forms of living organisms, gradually evolving until self-moving organisms appear with life in themselves, growing and eventually begetting their kind, each generation an improvement upon the former, until at last a man, the image of creative being, steps proudly upon the stage, while all nature wonderingly and with astonishment proclaims evolution completed, in this its last glorious product. And in all this process, if we study aright, we cannot fail to discover an original plan or scheme, a perfect teleological arrangement, or an exact adaptation of created means for the purpose and specific ends foreordained and foreseen. In conclusion, in this vast scheme the universe and our studies, theories and verifications, and reflection thereupon, cannot fail to convince finite man of his relation to and dependence upon infinite mind and infinite being. When this much is intelligently discerned, theism becomes a science, and the individual will become amply competent to perceive the infamy and blasphemy of the pretentions of so-called Christian Scientists, who would usurp the power of Eternal Majesty and deal out at their own volition, life and health, or disease and death for dollars and cents.

Man is indeed more than a senseless machine, but he may not usurp Almighty power, dethrone infinite thought, infinite will, and infinite being."

If any were inclined to call him irreverent, he surely would have to go outside of his writing or public utterances for data on which to base such a conclusion.

While looking forward hopefully and believing earnestly in the progress of medicine, he nevertheless could not accept readily, all the new theories advanced, or all of the treatment advocated. He had lived to see many apparently well-established methods cast aside as useless. I think he never quite believed in antitoxin. In discussing a paper, read by Dr. Foss, some years back, he said:

"Those of you who seem to unreservedly endorse the proposition of the paper, and to pin your faith to antitoxin as the remedy par excellence for diphtheria, ought not to be very much disappointed if you live to see the remedy universally condemned both by the profession and by the laity. Such and similar experiences are not new to the profession. Mortifying they may be, but the experience is old, too common to possess the least merit of novelty.

"The fact that diphtheria, like many other diseases, has all degrees of severity and danger, varying with climate, environment, locality and severity of epidemic. This much was well known long before the day of antitoxin, and such will be the case when possibly antitoxin shall have been discarded, condemned and forgotten.

"While our attention is directed to the argument of statistics it is necessary to keep wide awake to the exact point at issue. Hence we inquire not as to who or how many have been supposed to have been immunized, nor as to all the errors and mistakes in diagnosis where antitoxin has been used and credited. We should demand from its advocates to be truthfully informed as to something like the exact number of absolute cases of diphtheria in various localities, and at various times absolutely cured with antitoxin alone. Combined with other treatment these statistics are uninstructive and misleading.

"At present we know little, if anything, of the nature of this agent or of its mode of action. For the thousandth time we need still to be cautioned against an uncritical reception of testimony on the strength of a great name, or oracular authority. The problem is as easy of solution by any man as by any other man. In this regard a famous foreign name must not give the stamp of gospel authority. Make haste slowly, be ye not deceived, hold fast to that which is good, but for heaven's sake let us have no 'Brown-Sequard' nonsense in this."

He liked to give a hit at the germ theory now and then, though in the main he accepted it. In discussing Dr. Farrel's paper, he said: "No, gentlemen, the germ theory of disease contains some truth, possibly much truth, but more is claimed for it than a just criticism can allow. Facts, partly proved, only suspected, are seized upon from which to formulate wild theories, whereon wilder imagination proceeds to construct theories of treatment that utterly disappoint us in practice."

In many respects he believed in the old ideas, and in old treatment. What a vivid picture he gave us of pneumonia and methods of treatment of fifty years ago in his discussion of Dr. Dougherty's paper on Purulent Pleurisy:

"You may have your methods of treating such cases. I had mine—not mine, however, but the instructions of the best instructors and thinkers for more than two centuries. Phlebotomy was first on the list of remedies in acute inflammation, blisters second, and Dover's powder third. The rule was to draw the blood rapidly in such cases, and until respiration could be made without pain. This was followed by a Dover's powder, and by a blister larger than the hand, and as quick as it was well filled by serum to open and dress the blistered surface. The serum contained in the extracted blood, together with the copious product of the blister, we thought had better be outside the pleural cavity than within, to undergo decomposition and eventually become pus.

"We did not dare treat such cases without venesection and a blister. I understand such treatment is not practiced now, and I know full well that you would not dare to offer such treat-

ment for the same reason that we older practitioners did not dare to neglect it. In the older days, venesection and blisters were immensely popular, and now both are quite proscribed and prohibited by the same clientage that formerly demanded them. That in its day phlebotomy was vastly misused and abused must be quite certain. In the purely inflammatory diseases, and particularly in pleurisy and pneumonia, the antiphlogistic treatment showed at its best. In my opinion, those diseases are enormously more fatal since the abandonment of the older practice, nor do I think I could forgive myself, at this late day, in taking lessons for the treatment of those diseases from those who never saw or performed a venesection, nor witnessed the capital and almost magical results so often obtained by the old method of treatment.

"Fifty years ago a doctor who should neglect to use that most powerful instrument or remedy in the physician's armamentarium, would very likely be charged with malpractice in a case of pneumonia or pleurisy. Whatever results and conclusions future ages shall reveal, it will require an army of bold, courageous physicians to resist the clamor and demand of that host of people who are mere followers, and are unreasonable and unreasoning. For you to-day to be ordered by a client and a whole neighborhood of old women to bleed a patient, would be just the counterpart of the demand of a similar horde of ignoramuses who, forty or sixty years ago, told the doctor they had made up their minds that as the steam doctor, the hydropath, the botanical doctor, the homoeopathist did not bleed their patients they would, also, refuse the remedy, and so they did. So it may again come to pass that a few bold, courageous, educated men will step into the breach and, by old and forgotten means and remedies, perform wondrous cures, create a stampede, and, presto, one or two hundred years find both doctor and layman on the old stamping grounds, the former only too willing to puncture the veins of a clamorous laity, stupid and credulous enough to want to be bled for every possible ailment, real or imaginary. Who of you in such a time will risk going without bread in order to recommend and defend the practice of to-day? And the owl answers, Who-who?"

His description of the old-time doctor in response to a toast on "Old Physic," many years ago, has not been forgotten by any of us who had the pleasure of hearing him. It was on occasions of this kind that he was at his best. He liked nothing better than a medical banquet, where surrounded by those whom he loved, he could enjoy and appreciate the good things of life to the full.

Our last meeting with him on an occasion of this kind, in January of the present year, was saddened by his own forebodings that it might be the last he would spend with us, a foreboding too surely realized in a few short months. He realized that he had grown old, but we realized that he had grown old gracefully.

In discussing a paper read by Dr. Hakes before this society December 4th, 1895, on the "Nature of Inflammation," a member of this committee remarked, "I cannot refrain from expressing my admiration of the paper to which we have just listened. When we considered that the essayist entered the profession over fifty years ago, we are struck with the clearness and cogency of his reasoning, and while we may not be in harmony with all his conclusions, we must admit that he has made a powerful presentation of his views on the subject. As I sat and listened in admiration to the paper, I could not help entertaining the wish that we all, like him, might 'grow old gracefully,' and be found at his age with our 'natural force unabated and our eyes undimmed.'"

This was in 1895, nine years ago, and we all know how he continued to grow old gracefully. We recall his proud bearing, his taste in dress, even to the flower in his button hole; his courteous, cordial manner. Nothing pleased him better than to greet a friend, usher him into his library, and extend the hospitality of the old-time host, and many of us never will forget the almost kingly manner with which he entertained the members of the profession, as a body, in his home.

The memory of a man embodying such kindly traits of character will ever be sweet; we may cease to remember his dogmatism in medical matters, his seeming impatience with the more

modern refinements of medical science, his peculiar views of matters spiritual and theological, but we cannot forget that spirit of good-fellowship, that genial camaraderie, that fine bonhomie, that was ever present with him, that made him say,

"But ye whom social pleasure charms.
Whose hearts the tide of kindness warms,
Who hold your being on the terms,
Each aid the others:
Come to my bowl, come to my arms,
My friends—my brothers."

In a paper in memoriam of another member of this society some years back, Dr. Hakes, himself, used these words which we may be allowed to apply, also, to him: "The world is better that he lived. He contributed his full share to the happiness and well being of his fellow men. His example will remain an incentive for imitation, giving us our best hopes for eternal reward, making us strong in faith and courageous and fearless at last to go down to the dark waters dividing mortality from immortality, the transient life that is, from the life eternal, from the house which is temporal to 'an house not made with hands, eternal in the heavens.'"

GEO. W. GUTHRIE,
LEWIS H. TAYLOR,
S. M. WOLFE,
Committee.

REPORT OF CONTAGIOUS DISEASES AND MORTUARY RECORD IN WILKES-BARRE FOR 1904.

BY F. C. JOHNSON, M. D.

DEATHS IN WILKES-BARRE.

For the twelve months ending November 30, 1904, there were 945 deaths in Wilkes-Barre. This brought the mortality rate up to nearly 18, a figure which is greater than in any year since 1894. The number was 126 larger than in the preceding year, due mainly to the following increases: Accident, 26; consumption, 13; diphtheria, 13; heart disease, 21; croup, 7; and above all, pneumonia, which increased from 89 deaths in 1903 to 121 in 1904. Typhoid fever deaths (11) were somewhat below the average. The percentage of deaths from typhoid fever, as shown by the table, is unreliable, for while all the typhoid deaths are reported, many typhoid cases are never reported.

Cancer was less than for many years.

Consumption, in the preceding year, broke the record with 49 deaths, but 1904 exceeded even this and caused 62 deaths.

Diphtheria had 316 cases, with 26 deaths. There were twice as many deaths from diphtheria as in the preceding year, and nearly twice as many cases.

Scarlet fever showed a great reduction in number of cases, and there were only eight deaths. There were but 88 cases of scarlet fever reported, whereas in the preceding five years there were from 200 to 400 cases annually.

Measles had 391 cases and only three deaths. In 10 years there have been 1,601 cases of measles and only nine deaths. Previous to that the mortality was higher.

There were four cases of smallpox and one death.

MORTALITY TABLE.

Year.	Deaths.	Population.	Per 1000.
1890	691	37,615	18.3
1891	631	37,615	16.8
1892	815	40,000	20.5
1893	698	40,000	17.5
1894	910	45,000	20.3
1895	846	50,000	17.0
1896	744	50,000	15.0
1897	777	50,000	15.5
1898	716	50,000	14.0
1899	745	50,000	14.0
1900	801	51,721	15.5
1901	792	52,000	15.2
1902	731	53,000	13.8
1903	819	53,000	15.4
1904	945	53,000	17.8

CONTAGIOUS DISEASES.

	Diphtheria.		Typhoid Fever.		Scarlet Fever.		Measles.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Dec., 1903	40	8	7	1	19	4	60	1
Jan., 1904	19	0	3	1	11	1	57	0
February	15	1	3	3	6	0	49	0
March	5	1	1	2	6	0	98	1
April	13	2	2	0	7	1	53	0
May	19	2	2	1	5	2	31	0
June	23	1	2	0	13	0	36	1
July	14	2	0	0	2	0	1	0
August	31	0	3	3	5	0	3	0
September	30	3	3	0	6	0	0	0
October	57	3	9	0	2	0	0	0
November	50	3	1	0	6	0	3	0
1904 totals	316	26	36	11	88	8	391	3

CONTAGIOUS DISEASES—continued.

	Diphtheria.		Typhoid Fever.		Scarlet Fever.		Measles.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1903 totals . .	182	13	57	14	205	18	185	2
1902 totals . .	162	17	34	6	409	14	66	0
1901 totals . .	86	15	85	18	227	9	507	3
1900 totals . .	140	19	61	16	198	7	49	0
1899 totals . .	166	8	48	15	223	3	144	1
1898 totals . .	160	16	84	19	88	1	1	0
1897 totals . .	169	26	58	15	69	12	229	0
1896 totals . .	266	36	145	24	51	2	14	0
1895 totals . .	299	88	77	21	70	4	15	0
1894 totals . .	—	82	—	21	—	1	—	7
1893 totals . .	—	52	—	16	—	—	—	5
1892 totals . .	—	130	—	21	—	23	—	0
1891 totals . .	—	49	—	9	—	30	—	0
1890 totals . .	—	31	—	11	—	11	—	11

In the years from 1890–1894, as given above, the contagious disease cases were not reported, and only the deaths are given.

There were, in Wilkes-Barre, in 1904, two cases of small-pox in January and two in February, with one death; also four cases of cerebro spinal meningitis, with four deaths, and two cases of chicken-pox.

The accompanying table gives the details by months.

WILKES-BARRE MORTUARY RECORD.

Cause of Death.	December, 1903	January, 1904	February	March	April	May	June	July	August	September	October	November	Totals, 1904	Totals, 1903	Totals, 1902	Totals, 1901	Totals, 1900	Totals, 1899	Totals, 1898	Totals, 1897	Totals, 1896
Accident	1	8	8	10	14	12	10	12	4	6	10	5	100	74	44	64	57	64	48	61	78
Appendicitis	—	—	—	—	—	1	2	1	—	—	2	—	6	5	6	4	1	3	6	2	1
Apoplexy	2	1	4	1	4	—	3	—	—	5	1	4	25	27	26	30	23	19	19	18	16
Blood Poisoning	1	—	—	—	—	1	—	—	1	—	—	—	3	13	11	3	14	10	6	11	6
Brain Disease	—	3	1	1	—	1	—	3	—	—	3	1	13	1	8	3	5	19	3	33	18
Bronchitis	1	—	1	2	1	—	1	—	—	1	1	2	10	11	12	15	20	24	28	24	10
Convulsions	—	4	1	3	3	3	2	2	2	1	4	2	27	25	33	28	47	32	19	37	32
Cancer	2	—	—	1	1	2	—	2	1	—	2	1	12	14	31	19	27	22	15	16	14
Croup	4	—	2	1	1	1	—	1	—	2	1	1	14	7	8	4	4	11	8	15	14
Cholera Infantum	—	—	—	—	—	—	1	17	9	4	1	—	32	24	38	30	37	33	50	31	38
Consumption	2	1	6	6	12	6	1	8	3	5	6	6	62	49	28	46	51	44	47	34	42
Colitis and Enteritis	—	—	—	—	—	—	2	6	4	1	—	—	13	11	14	16	22	13	17	20	20
Diarrhœa	—	—	—	—	—	—	—	4	4	—	—	—	8	4	10	5	9	5	7	4	13
Diphtheria	8	—	1	1	2	2	1	2	—	3	3	3	26	13	17	15	19	8	16	26	36
General Debility	2	3	3	3	—	7	2	3	3	1	—	1	28	32	31	34	41	29	44	35	27
Grip	—	—	1	1	1	—	—	—	—	—	—	—	3	6	—	7	8	9	2	3	—
Heart Disease	11	11	10	7	7	6	6	5	5	9	5	5	87	66	76	59	55	44	46	61	43
Hemorrhage	—	—	—	1	—	1	—	—	—	—	—	1	3	5	4	10	—	5	8	8	7
Kidney Disease	—	4	5	6	1	4	6	5	2	4	6	4	47	47	30	39	22	34	22	31	30
Liver Disease	1	—	—	1	1	1	—	—	—	1	—	—	5	8	8	6	9	6	9	7	11
Meningitis	—	—	3	2	3	6	3	2	1	—	2	4	26	18	14	11	23	17	20	—	—
Paralysis	—	—	1	2	—	2	1	2	1	1	3	3	16	10	12	8	7	7	8	10	10
Peritonitis	2	2	4	3	—	3	3	1	3	—	1	5	27	21	7	18	11	9	18	13	17
Pneumonia	11	25	15	22	17	11	3	3	3	2	2	7	121	89	73	95	86	109	83	97	73
Still Born	8	5	3	5	7	2	3	4	3	6	4	5	55	67	60	69	51	57	50	79	75
Scarlet Fever	4	1	—	—	1	2	—	—	—	—	—	—	8	18	14	9	7	3	1	12	2
Stomach Disease	—	1	1	1	1	2	—	3	3	—	1	1	14	11	6	8	6	10	7	6	4
Tumor	1	—	—	—	—	—	—	—	—	—	2	—	3	3	1	3	5	2	3	2	3
Typhoid Fever	1	1	3	2	—	1	—	—	3	—	—	—	11	14	6	18	16	15	19	15	24
Weakness	1	3	2	3	2	2	1	7	6	9	3	4	43	33	29	39	45	22	8	19	40
Other Diseases*	14	7	3	10	6	16	9	2	11	6	7	6	97	93	77	78	73	50	59	62	51
Totals by Months	77	80	78	95	85	95	60	95	72	67	70	71	945	819	734	793	801	745	716	792	744

*Other diseases, not included in the classification above, but included in the totals, are as follows: Alcoholism 2, asthma 9, exhaustion 1, gangrene 3, measles 3, puerperal eclampsia 1, abscess 4, suicide 9, whooping cough 3, oedema of larynx 1, anthracosis 1, diabetes 4, neurasthenia 2, pleurisy 6, small-pox 1, anemia 7, inflammation of the bladder 3, rheumatism 3, atelectasis 2, complication of diseases 8, erysipelas 2, intestinal indigestion 1, leucaemia 1, degenerated uterine fibroid 1, tuberculosis of the bowels 2, obstruction of the bowels 4, spinal dropsy 1, malnutrition 4, oedema of glottis 1, purpura hemorrhagica 1, murder 1, arterial sclerosis 2, pelvic cellulitis 1, tonsilitis 1, pemphigus 1.

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